MEDICAL TOPOGRAPHY

AND

STATISTICS

OF THE

PRESIDENCY OF MADRAS.

COMPILED FROM THE RECORDS

OF THE

MEDICAL BOARD OFFICE.

VOL. II.

PUBLISHED BY ORDER OF GOVERNMENT

MADRAS:

PRINTED BY R. W. THORPE, AT THE VEPERY MISSION PRESS.

1844.

MYSORE DIVISION.

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B C Regel Delt

MYSORE DIVISION.

This divison of the Army includes the entire of the country of the Rajah of Mysore, which is at present under the general management of a Commissioner appointed by the supreme Government, in consequence of difficulties, both of a political and financial nature, from which the country suffered for many years, whilst under native government.

The city of Mysore is the present capital, and the residence of the Rajah; Seringapatam formerly the chief city, and of such vast importance, having been abandoned as a military station, in consequence of the deadly character of an endemic fever which prevailed there, and which for several years carried off vast numbers both of Europeans and natives; and it is now fast falling into decay, and becoming every year more and more deserted.

The principal military stations in Mysore, are Bangalore the head quarters of the division; Hurryhur, to the north of Bangalore; and the French-rocks, within a few miles of Seringapatam; to which may be added the grazing and breeding farm for public cattle, established at Hoonsoor.

The depôt for remount horses being on the same table land, also comes to be noticed in this division, although five miles beyond the borders, in the Salem district.

The principality of Coorg is likewise annexed to the Mysore Division of the Army, but will more properly form the subject of a separate report.

Situation and extent.

The country of Mysore is a high table land, lying between 74° 40, and 78° 40 east longitude; and extending from north latitude 12° 30, to 15°; it contains about 37,000 square miles, and is chiefly situated on an angle formed by the junction of the eastern and western ghauts; the most southern part of the former, being the well known Neilgherry hills. The elevation of the country varies a good deal, thus, Paidnadurgum is 1,907, Baitmungalum 2,519, Bangalore 3,000, Mysore 2,513, Seringapatam 2,558, Serah 2,223, Narsapore 2,904, Colar 2,800, Naikennary 2,221, and Hurryhur, 1,831 feet above the level of the sea, according to barometrical observations.

Mountains.

The Sevagunga mountains, about 25 miles N. W., of Bangalore, one of the highest ranges in Mysore, rise to 4,600 feet above the level of the sea; but some of the peaks of the Bababooden mountains in the district of Nuggur, attain an elevation of upwards of 6,000 feet.

The Ghauts, forming the east, west and south limits of the province, are high ranges of mountains, covered with wood and bamboo jungle, but to the northward the country is more plain and open, and the level descends considerably.

It is altogether an inland country, but its north-western angle approaches to within about fifteen miles of the sea, from which however it is separated by the western ghauts; on the eastern side, it does not approach nearer to the bay of Bengal, than within about 100 miles, and its southern point is 50 miles from the Malabar coast. The general aspect of the country is rather undulating than hilly, although there are several detached ranges, and clusters of rocky mountains, from which the rains have washed away the earth, leaving masses of primitive rock piled as it were one upon another, with only a scanty herbage around their bases, and a few stunted shrubs, rooted in the clefts on their sides.

Large tracts of low jungle, and open waste ground, are interspersed with cultivated spots, and there is also a con-

siderable extent of grazing ground throughout the province. There are no marshes of any extent, but there are numerous tanks, upon which the Mysore ryot depends, in a great degree, for the irrigation of his rice fields; they are usually constructed by throwing strong embankments across the lower parts of valleys, in order to dam up the rain water, and lakes of several miles in extent are thus formed, from which the water is drawn off as required, for the cultivation of the lower grounds.

Divisions of Mysore, and boundaries.

The province is divided into the districts of Bangalore, Mysore proper or Astragam, Chittledroog, and Nuggur, and is in extreme length about 257 miles, and in breadth about 238. It is bounded on the north by Soonda and the Ceded districts; on the east, by the Ceded districts and North Arcot; on the south, by Salem and Coimbatore; and, on the west, by Malabar and Canara. The small territory of Coorg having lately been placed under the commissioner of Mysore, is likewise considered as annexed to the Mysore division.

Rivers.

The chief rivers are the Toombudra, which takes its rise in the western ghauts by two sources, the Toongah, and Budra, which unite at Holyhonore; it traverses the Nuggur district from south west, to north east, and leaves the country on its north east frontier at Hurryhur; the Hugry, or Vadawatty which rises in Nuggur, and traverses Chittledroog; the Pinnaur which rises in Oosscottah, from a chain of tanks near Nundidroog, and passes to the southward, and eastward into the Salem district near Ryacottah; the Cauvery which rises in Coorg, and traverses the southern part of Mysore, previous to entering the Coimbatore country; and the Hummawaty river, and its tributary the Lagachy, which are also valuable streams, neither of them being ever quite dry; the entire country is intersected by small rivers, but except the above mentioned, none are of sufficient consequence to be named, as they become dried up after the monsoon season.

Droogs, and hill forts.

The most curious of the geological features of the country, are the isolated hills, or *Droogs;* the principal of these are Nundy-droog, Chittle-droog, Severn-droog, and Ootra-droog. Forts were generally built on the summits of these hills, which are elevated from 1,000, to 1,500 feet above the level of the surrounding plain, rising abruptly from a base of not more than one or two miles in circumference; they are chiefly composed of masses of granite, gneiss, and hornblend, and most of them were fortified by the native governments. These forts, which are now nearly all in a dilapidated state, are generally inaccessible except on one, or two of their sides. Small tanks and springs of fresh water, are found on the summits of some of them.

Rocks.

The rocks in Mysore, are generally of primitive formation, such as black and grey granite, hornblend and gneiss, containing masses of quartz, feltspar, and occasionally mica; either hornblend, gneiss, or laterite are found to protrude every where through the soil.

Climate.

Mysore has always been celebrated for the mildness of its climate, the temperature of which, to the feelings of the European, is most agreeable; at Bangalore the general annual average range of the thermometer at noon, in the house, is 76° of Far.—The nights are seldom hot,and the mornings and evenings are always cool, if not cold; and there is an elasticity in the air which is truly delightful; nevertheless, to strangers it often proves treacherous, particularly should they expose themselves much to the sun—for the cold of the mornings followed by the heat of a tropical sun, is hurtful to most constitutions. The thermometer exposed in the open air, constantly ranges forty degrees between sun rise and noon.

The following may be taken as a fair estimate of the climate.

From the end of January to the end of March, the days become gradually hotter; and from the last week in February, to the end of March, high and most disagreeable winds prevail, from the north and north east. The mornings and

evenings at this time, are however cool and pleasant, but as the season advances, the nights become close; this is found to be the least healthy period of the year.

From the end of March to the end of June, heavy showers from the west, with thunder and lightning are to be expected, and if rain should fall in March, the weather immediately becomes cool; June is a pleasant month, being cloudy and cool, and the country is then usually clothed with verdure;—the mornings and evenings at this time, are more equable than at any other season throughout the year.

From the end of June to the middle of August, the weather is cool and pleasant, and from that period to the end of September, the temperature gradually rises.

From the end of September to the end of January, the weather again becomes pleasant, the mornings and evenings being cold, and the mid-day cool; heavy fogs are frequent in the mornings, at this period of the year.

The climate of Mysore may be said to be more pleasant than healthy, there being very few parts of the country which are not subject to severe visitations of epidemic remittent fever, from which Europeans appear to suffer less severely than natives; amongst the native inhabitants the disease is very fatal, and is a principal cause of the population being so thin in some parts of the country.

Prevailing diseases.

The prevailing diseases are catarrhal, remittent and intermittent fevers,—the latter being called the Mysore fever;—influenza, diarrhœa, and dysentery occur at the change of the monsoons; and during the prevalence of the strong north easterly winds, exposure to cold brings on rheumatic complaints, and occasions a disagreeable dryness of the skin. Bilious remittent fever is endemic in all the jungly districts, more particularly in Nuggur and Astagram; but Chittledroog has for the last few years been less unhealthy than heretofore. No part of the country is better situat-

ed, or freer from the influenee of jungle miasm than the cantonment of Bangalore; remittent fever being nearly unknown amongst the troops, exeept as the result of occasional, and in many instances, imprudent exposure in unhealthy districts.

Elevation of the country, its effects on the salubrity of the climate.

The elevation of the country beeomes gradually less from Bangalore, 3,000 feet above the level of the sea, to the banks of the Cauvery; Seringapatam being 2,159 feet, Soeilla 2,105 and from thence, a further descent of 1,000 feet oeeurs, to an island on the river, which is peculiarly unhealthy; Seevasamoodrum 2,023 feet, nearly the same elevation as Seringapatam, is equally unhealthy, this plaee is surrounded by water and jungle, and near it is one of the falls of Cauvery. The French-roeks, a station only nine miles from Seringapatam, 2,419 feet above the level of the sea, and only 300 higher than Seringapatam, is healthy, and eomparatively free from fever; from thenee to Munjerabad, and the foot of the Bababooden hills in Nuggur, a gradual rise takes plaee; Munjerabad is 3,200 feet above the level of the sea, and Bababooden attains an elevation of 5,768, the highest point of the range being 6,347; the two latter plaees, whieh are thinly inhabited jungles, are, notwithstanding their elevation, fertile sourees of malaria.

Various localities have changed their character for healthiness from time to time.

Several loealities in Mysore, which have been peculiarly productive of fever, have after the lapse of few a years, been known to beeome again perfectly healthy; thus Nundidroog from the year 1805, to 1823, was a tolerably healthy military station, it gradually however altered its eharacter, and beeoming extremely unhealthy, was abandoned. It is now again said to be healthy, and free from febrile diseases. Chittledroog, Seerah, and Santa Bednore, have all similarly ehanged their characters at times, though to all appearance, excepting atmospherie ehanges, the other exeiting eauses have remained unaltered. The stations in the valley of the Cauvery, have however never altered, as Seringapatam, Mysore, and Hoonsoor. The hilly and jungly

districts, to the north and west of Mysore, are also very feverish, as Munjerabad, Hassan and part of Nuggur. A singular instance illustrative of the foregoing remark happened at Ooscottah, a considerable town a few miles from Bangalore, which in the year 1836 became suddenly very unhealthy. After the prevalence of an easterly wind, vast numbers of persons were seized with symptoms of catarrhal influenza, which rapidly became infectious, assuming a typhoid type, and upwards of two thousand of the inhabitants, of this populous place, fell a sacrifice to the disease; several travellers stopping at the place for a night, were attacked; and the tappal runners were afraid to pass through it. The town which is now healthy, is situated on low ground, close to a very large tank. Similar epidemic visitations are by no means uncommon in Mysore, whole villages becoming suddenly depopulated from fever, which the natives attribute to the effects of the cold and dry winds, which even to Europeans, are painfully disagreeable.

Ooscottah, the epidemic of 1836

Soils.

The soils in Mysore, may be divided into the black, or cotton ground; a rich red earth, produced by the disintegration of rocks containing much iron; common, or reddish brown soil, containing iron in the state of protoxide; a white silicious unproductive earth; and, a clayey mould found in the valleys and below tanks; for a more particular account of these, see the report of Bangalore.

Vegetable produce.

Coffee and tobacco grow well in the Nuggur district, which supplies the Malabar coast with the latter article. Sandal and teak wood are found in the forests of Coorg, Nuggur, and Astagram; cardamoms, cinnamon, pepper and ginger, are grown every where; and sugar, and sugar candy are made all over the country. In Munjerabad and the Wynaad jungles, the sago palm thrives well. Potatoes grown at Nundidroog are nearly equal in quality to those of England; silk worms were introduced by Hyder Ally, and silk of good quality is produced, though the articles manufactured from it, are of coarse texture. The poppy is grown in

many places, but the opium produced is inferior to that of Turkey or Bengal, and is said to contain less morphine.

Mineral productions. The iron found at Mudgherry, Chennapatam and other places, is converted into steel, which the natives consider to be of superior quality, when prepared with bamboo, or bungarry charcoal. Glass is also made in many places; and impure muriate of soda, a black salt, procurable in the bazaars, is obtained from the soil by lixiviation, it contains a small portion of iron.

Sheep. Chittledroog is famous for its breed of sheep, and for its blankets, or cumblies,—very generally worn by the natives,—which are manufactured from the country wool; a finer sort of cumbly not unlike serge, being also made in limited quantity.

Wool.

Fruits and vegetables. European fruits and vegetables thrive well in the climate of Mysore, the peach, apple, and strawberry are plentiful, and peas, carrots, and knol-khole are procurable in the bazaars, at the military stations.

A list of fruits, grains, vegetables, &c. the produce of Mysore, is given in an appendix, the native names being those in common use; many of the English names are taken from Ainslie's Materia Indica.

Twenty two varieties of paddy, and ten of ragghy are found in the bazaars.

A table shewing the season in which many of the crops are sown and reaped, is also annexed.

The manufactures are confined almost entirely to silk and cotton cloths, the latter being strong and well adapted for trowsers, and for native use.

Bourbon cotton. The Bourbon cotton, lately introduced by the Commissioner, has succeeded admirably, and not only are the crops far more abundant than those from the common country cotton, but the wool is cleaner, and of a better staple; the

plant also possesses the peculiar advantage of growing best in the red soil, which prevails throughout the country, and in a few years it may be expected that Mysore will supply itself with this article, much being at present imported from the Ceded districts; the Bourbon cotton already sells in the bazaar, at double the price of the country cotton, and its only disadvantage appears to be, that it is more liable to be destroyed by insects before being cleaned.

Proportion of cultivated, to uncultivated lands.

Of the 37,000 square miles, which the province is said to contain, the cultivated lands do not probably amount to more than 3,817, or 1-10th, or 1-11th, of the whole; and dry cultivation bears about the proportion of 4½, to 1 of wet; the red soil forms about 5-16th of the arable lands; the black 3-16th; lands of mixed quality 4-16th; and mixed, and stony about 4-16th.

Rivers, and water courses &c.

There are 28 rivers throughout the province, the waters of which are used for the purposes of irrigation,and 1850 water courses; besides which, great facility exists in obtaining water from wells and tanks; but notwithstanding these favorable circumstances, the natives prefer dry cultivation, to wet.

Villages.

Villages and hamlets are very numerous, and scattered over the country in every direction.

Materials for road making.

The materials for road making are of an excellent description, and every where abundant; but if much care be not taken to keep the roads in repair after heavy rains, they soon become cut up and intersected with ravines.

Roads.

The principal roads are, a direct line of communication from Madras to Mangalore, which crosses the peninsula from east to west, in nearly a straight line, and enters Mysore at the Naickenairry ghaut, passing through Bangalore, Coongul, Chenroypatam, Hassan and Bisly, into Canara.

A road from Madras which leaves Seringapatam to the north, passing through Mysore and the Wynaad jungle, to Cannanore ; this is not so direct a line as that through Coorg.

A road also runs from Mysore, due south by Goondelpett, where it divides into two branches, one going west to the Neilgherries, and the other east, round these hills, into the Coimbatore country by Guzzlehutty ; a good road runs also to Bombay, viâ Hurryhur and Dharwar ; and another line in a northerly direction proceeds to Hyderabad, by Nundidroog and Bullapoor ; there is likewise a communication with Cuddapah, by Nundidroog ; and lastly a road from Madras to Bangalore, has lately been opened viâ Oossoor, through the Amboor valley, avoiding the steep ascent of the ghauts. Most of the passes into Mysore, are in the Madras territories, having been ceded to the Company in 1792.

Population. The natives of Mysore are in general of small stature, but are a well formed and active race, the population is apparently scanty, and there are very few parts of the country which could not be made more productive, than they at present are.

The following estimate of the population has been drawn up as carefully as possible, with reference to the number of ryots paying taxes, and the number of merchants and other classes, in the several towns and villages, but it is not altogether free from error.

The Bangalore District contains,

Talooks,	Villages,	Population.
28,	11,073,	2,60,800.
	Mysore,	
29,	8,895,	8,55,536.
	Chittledroog,	
32,	5,649,	4,26,607.
	Nuggur,	
14,	5,319,	4,59,842.
	Total Population. .	20,02,785.

To the above must be added at least 1,000,000 souls, as women and children are not included in the returns for the Bangalore and Mysore districts, and in those for which they are given, they exceed the number of males; the entire population of the country may therefore be estimated at about 3,000,000, or 786 inhabitants to each square mile of cultivated land.

Bangalore and Mysore, are the most populous districts, and Chittledroog the least so; the situations generally selected

Site of villages.

for the sites of villages, are sheltered spots on the sides of hills; the villages being usually surrounded either by mud walls, or thick hedges, which serve the double purpose of defending the inhabitants from the attacks of wild animals, and from what they fear quite as much, the dry easterly winds; and the nearest high ground to a tank, is frequently selected without reference to the healthiness of the locality.

Houses.

The houses are built of mud, having low thatched or tiled roofs, they are ill ventilated there being seldom any aperture for light or air, except the door ways, of which there is often but one, rarely more than two, and these so low as not to admit of a person entering without stooping; this is in some instances owing to the regulations of caste, which do not permit the doors being more than a certain height.

Many of the better class of natives have privies, in a yard behind their houses, formed by excavating deep circular pits, which are covered with a large flat stone, having a narrow opening in the centre; when requisite they are either cleansed out, and the contents used as manure, or covered over, and fresh pits made. Some villages appropriate a small space of ground, enclosed with a mud wall, for the purposes of a public necessary.

Clothing.

A cloth round their waist, and a black cumbly, is the universal attire of the ryots; but natives in good circumstances wear broad cloth and flannel, in the wet and cold seasons.

After sun set, and generally when in the open air, a cloth is worn tied over the head, and ears ; and natives always sleep with the entire body, head and face, covered.

Bedding. All who can afford it, have cots or raised platforms for sleeping on, with either a mat or rug, and a cumbly as a covering.

Fuel. Firewood is abundant all over the country, but bratties, or cakes made of dried cow dung, seem to be preferred as fuel, by natives in general.

Police establishment. The police establishment in the cantonment of Bangalore, is under the same regulations as in the Company's territories, but throughout the Mysore country, the police duties are conducted by Candachar peons, or Matchlock men, of whom there are one or two in every village; the head quarters is at Bangalore, and there are two distinct classes, one for the revenue, and the other for the judicial department. The establishment consists of Peons, Duffadars, and Hoblydars; who each receive from three to nine rupees monthly pay. Their arms are generally a sword and matchlock.

Silladar or Mysore horse. A body of men, called the Silladar, or Mysore irregular horse, is also kept up, and under the command of a European officer; they amount to about 2,700 men, who receive 20 Rupees per mensem, and are obliged to be ready at all times, when called on, with their horse and equipments complete. Their dress is a red *ungreka, and trowsers. They are armed with a sword, spear, and short matchlock, and are a well mounted, efficient body of men.

The Silladar horse are divided into seven companies, one of which is stationed at Bangalore, two at Closepet, one at Hussan, one at Chittledroog, one at Letchman, and one at Nuggur.

Mysore infantry. The Mysore infantry, also under the command of a European officer, form an efficient, and very useful body

* A native coat or upper garment.

of men, amounting in number to about 2,200; Bangalore is their head quarters, but detachments are stationed in each district, to assist the police, and for the protection of treasure, &c.

Diseases of horses.

Horses are annually subject to an epidemic disease which carries off large numbers, in a few hours illness. The disease both in its course, and the ravages which it commits, is not unlike cholera, it likewise attacks horned cattle.* Horses are also subject to inflammatory attacks, and to weakness in the loins.

Of horned cattle and sheep.

Horned cattle and sheep suffer much from a disease appearing in the form of aphthous eruptions on the lips and tongue, often ending in fatal diarrhœa. The treatment consists in the exhibition of pepper, salt, and the highly astringent expressed juice of the flower of the plantain tree, remedies which are considered specifics by the ryots.

During the hot weather in seasons of drought, when the cattle become lean and out of condition, thousands die in the northern parts of Mysore, affected with bloody diarrhœa, and vomiting of a watery fluid, from which few recover.

Large numbers also die from bowel complaints, on the first commencement of the rainy season, caused by the sudden change from dry to green food.

Of poultry.

Poultry die in large numbers from diarrhœa, and a disease not unlike small pox, appearing in pustules on the head and tongue; the latter complaint being more especially fatal to turkeys.

Ergot in rice.

Rice is often affected with ergot, in wet seasons, the use of which causes diarrhœa; the natives say, that it also produces ulceration of the fingers and toes, which terminates in mortification.

* Post mortem examinations have proved unsatisfactory in these cases, slight congestion of the gastric and intestinal mucous membrane being the only morbid appearances which have been discovered.

Number of persons, and cattle killed by wild beasts.

The number of persons, and of cattle, reported to have been killed by wild beasts in Mysore, from January 1835, to September 1836, is as follows.

	People killed.	Cattle killed.
Bangalore District.	15	2,397
Astagram do	74	1,498
Chittledroog do	24	714
Nuggur do	224	2,160
Total. . . .	337	6,769

Number of wild beasts destroyed

Rewards having been offered, and inducements held out by Government, for the destruction of wild beasts, the following numbers were killed from January 1835, to September 1836.

	Elephants.	Tigers.	Cheetas.	Leopards.	Bears.
Bangalore District.	1	22	55	21	8
Chittledroog do	0	82	123	0	55
Astagram do	28	100	0	108	6
Nuggur do	0	145	172	0	44
Total. .	29	349	350	129	113

Many of the villages in jungly districts, have been almost uninhabitable, from the ravages of tigers ; these animals have been most successfully destroyed, by taking them in pit falls, in which way the greater number of the above were caught.

State of medical science amongst the natives.

Of the popular remedies, in use many are inert, and some are calculated to produce effects, altogether different from those for which they are administered ; they chiefly consist of aromatic, or pungent seeds, and gums, with a few mercurial and other mineral preparations, which are extremely rude, and consequently uncertain in their effects.

Fevers.

No distinction is made in the treatment of the several forms of febrile disease ; the principal remedy in use

is the following preparation of arsenic—about half an ounce of solid white arsenic, is inserted by a narrow opening, into the fruit of a bitter vegetable, called augulkoy, and a hole being made in the ground about a foot in depth, and nine inches in circumference, the fruit is placed in it, and covered over with dried cow dung, which is set fire to; when the cow dung is consumed, it is taken out of the pit, and the arsenic is submitted a second time to a similar process; after which it is washed several times, in cold water, and exposed to the sun till perfectly dry; it is then ground into a fine paste, in a stone mortar, either with lime juice or honey, and made into pills of about half the size of a small pepper corn.—One pill is given twice a day for three days, rubbed up in about a tea spoonful of honey, or warm water; and low diet is enjoined whilst using them, such as rice and pepper water or rice conjee, but no vegetable or fruit of any kind is allowed; this remedy will, it is said, cure the worst cases of fever, but is liable to bring on dysenteric affections. The use of this rude preparation is also supposed to occasion much of the anasarca, which has been attributed to damp unhealthy situations, and is of frequent occurrence after fever.

Dysentery. The principal remedy used by the natives in dysentery, is opium combined with astringents, prepared as follows; a young pomegranate is scooped out, and a piece of opium about the size of a large nutmeg introduced into it, it is then placed on a slow fire of cow dung, for two hours, or till the fruit is completely charred; after being allowed to cool, the whole is ground in a stone mortar, and the mass made into pills, each about the size of a pea; one is given every night or oftener, for three or four days, and generally with good effect.

The diet in this disease is restricted to rice and ghee, or rice and buttermilk.

Many of the natives treat dysentery simply with castor oil, about an ounce being given every second, or third morning. Bleeding either general or local is not employed, but recourse

is sometimes had to fomentations, when tormina or tenesmus are severe.

Diarrhœa. Pomegranate bark, fennel seed, and nutmeg are employed in diarrhœa, occasionally combined with small quantities of opium.

Epilepsy. Castor, musk and bezoaar are given in cases of epilepsy.

Worms. In intestinal worms, cowhage, and the root of the pomegranate bark, which is known to have formed the celebrated french vermifuge powder, are the chief remedies; the milk of the pappai fruit, is also used for this purpose. The nauk pooche-cottay, or seed of the margosa is given to expel ascarides, and is prepared as follows. The seed being placed in cowdung for a night is opened, and the cotyledon extracted for use; this remedy it is said seldom fails in effecting the expulsion of the worms.

Ascarides.

Asthma. Strammonium is smoked as an antispasmodic in cases of asthma; and rue is given with the same intention in most of the complaints of females, and also to infants.

Diseases of females.

Leucorrhœa. Oxide of zinc is given in leucorrhœa and weakness of the seminal vessels, with apparently good effect; and gold is supposed to possess powerful aphrodisiac properties.

Surgery. Fractured limbs are frequently seen, which have been very neatly set by potters; their method of treatment being to encase the limb in wet clay, and cow dung; but should inflammation and swelling ensue, this system of treatment must be exceedingly painful, and frequently induce gangrene.

Midwifery. The treatment of puerperal complaints is mixed up with much prejudice and superstition, and is generally highly injudicious. The Canarese women for the first three days after giving birth to a child, are allowed little or no food; on the fourth day, some boiled

Canarese women.

rice and toddy are given, with warm water for drink; this diet is continued for seven days, when leavened bread, made of the flour of the noyee-oorvie or achyranthes, is substituted; on the 13th, or 17th day, they bathe, either margosa leaves, marsh mallow, or noochie being boiled in the water. To women of castes who use animal food, stimulants, such as pepper-water and aromatic decoctions, are given immediately after labour.

Coomties. The Coomties refrain from food for the first five days, and bathe on the fifteenth after delivery; and for three months thereafter, their drink is restricted to boiled water. In obstructions of the lochia, betel and catechu are chewed, to promote the discharge.

Brahmins. Brahminy women fast the day after delivery, and the use of salt and acids, are strictly prohibited for some time; from the fourth day to the end of a month, rice boiled and dried, constitutes their chief food.

Puerperal convulsions. In puerperal convulsions, rue, pepper and garlic, are administered in the form of a bolus, and stimulants are applied to the cornea, a practice common in epilepsy, and which frequently destroys the sight. The actual cautery is also resorted to in convulsions.

Treatment of new born infants. Immediately after birth, infants get a dose of rue and castor oil; and in infantile asphyxia and convulsions, the juice of the milk hedge, (euphorbium tirucalli) betel, and russapuspum,—an impure muriate of mercury,—are given in small doses; acorus calamus and crocus sativus, are also employed in these complaints. A powder called "*Thout Russum*" is a favourite remedy in the complaints of infants, it is made by triturating quicksilver, with the juice of the cucurbita hispida, red pumpkin, till perfectly oxydized, it is then mixed with saffron, and musk, and given internally in small doses. The expressed juice of garlic, with lime, is given as a purgative to remove the meconium; and in cases of diarrhœa, astringents combined with nutmeg, are employed.

Purgatives in general use.

The purgatives in general use, are croton and castor oil ; the croton is prepared, by first boiling the seeds with cow dung and water, then removing the husk, and macerating in milk for 24 hours, after which they are beaten into a mass, and given either in that state, or the oil is expressed for use. The above process is supposed, and it is believed correctly, to render the oil less acrid, than when obtained from the raw seed. The plant called kurs-allagunny combined with castor oil, is used to purify the blood.

Anti-mercurial medicine.

The bitter juice of a vegetable, called nurry pauvakoy, momordica charantia, Lin: mixed with the juice of the betel leaf, is taken to counteract the effects of mercury.

A general description of the subdivisions of the Mysore Province; viz. Bangalore, Chittledroog, Mysore or Astagram, and Nuggur.

District of Bangalore.

The district or division of Bangalore, is bounded on the east by the Ceded districts, and north Arcot ; on the south by Salem and Coimbatore ; on the north by the Ceded districts ; and on the west by Chittledroog and Astagram. The country in general is level, and the soil dry and gravelly, but tolerably productive. It contains 28 talooks, 11,073 villages, and, exclusive of women and children, a population of about 2,60,800 souls.

Boundaries.

Population.

Castes.

The inhabitants are chiefly jains, brahmins, and coonnibees, the latter being ryots ; but in the immediate neighbourhood of Bangalore, and in the pettah and bazaars, natives of every caste and description are to be found.

As most of the remarks under the head of Mysore, are likewise applicable to this district, it is requisite to allude only to some diseases peculiar to this part of the country, and their probable exciting causes.

Diseases. In Dhoda pettah, leprosy, eruptive diseases and bilious remittent fevers, are very frequent, pneumonia, fever, chronic, and acute rheumatism, and cephalalgia, are also prevalent, the latter in particular amongst persons who lead a sedentary life. Lues in the most aggravated form, is common. Brahmins are very liable to flatulent colic, and to tympanites. Intermittent fever was endemic in the pettah of Bangalore previous to 1822, and proved very fatal; the natives attribute its subsidence to the principal streets having been planted with cocoanut trees, but increased attention to cleanliness has doubtless been the cause of the beneficial change which has since taken place. Weavers, jewellers, and smiths in advanced years, are said to suffer from sternalgia.

District of Chittledroog. The Chittledroog district is more extensive but less populous than that of Bangalore; it is Boundaries. bounded on the east by Bangalore and the Ceded districts; on the north by the Ceded districts, on the west by Nuggur; and, on the south by Astagram. It con- Population. tains 32 Talooks, and 5,649 Villages, the total male population is computed at 1,56,003, and including women and children 4,26,607; of whom one third are supposed to be lingaits and coomties, one sixteenth brahmins, and the remainder other castes.

General aspect of the country. Much of the district consists of jungle and mountain ranges, or rather lines of barren hills, running from Astagram near the valley of the Cauvery, in a northerly direction. These ranges are of no great breadth, and seldom above six or seven hundred feet in height. The country is open to the north; but low ranges of hills at the distance of a few miles, obstruct the view to the west. *The Droog* is the last mountain of this range, and gives the name to the district. The hills and mountains are clothed with small stunted trees, and low jungle.

Nundidroog. Nundidroog a celebrated hill fortress, distant 35 miles from Bangalore, rises in three majestic hills.

This fortress was taken by a portion of the Army under Lord Cornwallis, in 1791. At one time it was famed for the salubrity of its climate, and was frequently visited by invalids from Madras; it however became all at once unhealthy, and has for many years been abandoned as a station. Not far from this place is Deonhutty, a fortified town, at the seige of which Hyder Ally first distinguished himself, and where his son Tippoo was afterwards born. Two granite stones are all that now remain, to mark the site of the palace in which he was born.

Deonhutty.

Soil.

The soil in the vicinity of these places is extremely rich, and much attention is paid to the cultivation of tobacco and sugar cane; the manufacture of the latter was improved under Tippoo Sultaun, who established several Chinese at Deonhutty, and taught the people the mode of manufacturing the finer kinds of sugar.

The soil in the open country is either a red earth, or sandy and gravelly, which however with a little manure produces excellent crops. In the valleys it consists of a rich black loam, formed by decomposed vegetable matter mixed with disintegrated granite; it also in many situations contains iron and saline impregnations, from which latter a black salt is extracted, though not in sufficient quantity for internal consumption. In those places where salt is most abundant, the soil is least productive.

Diseases.

The endemic diseases peculiar to the district, are intermittent fever,—which is often followed by enlargement of the spleen, jaundice or dropsy,—dysentery, pulmonary affections, cholera, and ophthalmia. Fevers prevail during the months of November, December, January and part of February, which the inhabitants attribute to the cold north easterly winds.

Small Pox a few years ago made great ravages, but is now scarcely known, vaccination having since become popular.

Epizooties of horned cattle.

Horned cattle are subject to two forms of epide-

mic disease, one of which, aphthous ulceration of the mouth and tongue, accompained by rejection of food, a dull heavy appearance, diarrhœa and violent griping, is considered to be contagious. The symptoms of the other form of epidemic, are purging, swelling of the belly, suppression of urine, extensive ulceration between the hoofs, and great prostration of strength. These diseases prevail in the hot season at which time grass and water are scarce, and of bad quality. In the former disease, which runs its course in three or four days, the treatment consists in washing the mouth with warm water twice a day, and giving the animal about 3 or 4 ounces of lard in hot water, every morning. In the other disease the animal is kept in a warm stall at night, and fed with unsoaked gram, and dry grass, or straw; the feet being placed in deep mire for several hours during the day.

Of Asses. Asses, which in this country are very generally employed as beasts of burden, are subject to an epidemic in wet seasons; the symptoms of which are enlargement of the belly, rejection of food, foaming at the mouth and nostrils, followed by emaciation and convulsions. The owners are all people of low caste, and the only remedy they employ is firing the animal on both flanks, and on the sides of the nose.

Of Sheep. Sheep are bred in large numbers throughout the district, by two distinct classes of people, called Gwolla and Cooroovur, in the rainy season they are taken to the waste lands, and secured during the night by fences of dry thorns, from the attacks of tigers, and other beasts of prey. In the dry season the flocks are brought to the neighbourhood of the villages, and kept on the arable lands, for the purpose of manuring them.

Sheep are subject to a sort of catarrhal disease in the wet season, which often rages as an epidemic, particularly when they are closely pent up in large numbers. No remedies are employed for its cure.

Wool. Wool, which is of good quality, is one of the chief staple commodities of the country.

Cotton. Cotton is likewise produced, in all parts of the district.

Climate. Chittledroog is peculiarly circumstanced with regard to rain, much less falling in it, than in the other districts, and it is perhaps on this account, that it is so much better adapted for the rearing of sheep; the pasturage is short and dry, and the flocks less liable to the rot, or other diseases, incidental to more moist situations.

It is also celebrated for its breed of carriage bullocks.

Mysore or Astagram. Boundaries. Mysore or Astagram is bounded on the east by part of the Bangalore district, Coimbatore and Salem; on the north by Chittledroog and Nuggur; on the west by Canara and Coorg; and on the south by Wynaad and Coimbatore. The town of Mysore, the capital and residence of the Rajah, is situated nearly in the centre of this, the most extensive district into which the province is divided. The country is populous, well cultivated and contains 29 talooks, Population. 8,895 villages, with a population amounting to about 8,55,536 souls; of these about 18,000 are mahomedan families; 26,570 brahmins; 73,420 lingaits; and 2,663 jains.

There are a considerable number of mahomedans in the town of Mysore, the descendants of families which flourished in the time of Hyder Ally, and Tippoo Sultaun.

Climate. The climate of this part of Mysore is neither so pleasant, nor is it as healthy as that of Bangalore, owing to the latter being more elevated, freer from jungle, and drier.

From January to March, the nights and mornings are cold and chilly, and fogs are frequent, not dispersing till about 8 A. M.; towards the latter end of the month the days become hot and oppressive, with heavy dews at night.

From April to June, the temperature is more equable, the nights become warmer, and there is a considerable fall of dew;

the days continue very hot, but should rain fall in May, which is usually the case, the weather becomes pleasantly cool, though feverish.

From July to September, the weather is cloudy and pleasant, and from that time till December, a refreshing cool wind prevails during the day, and the evenings and mornings are cold.

Heavy showers may be expected in April and May, and the south-west monsoon continues throughout June and July, and is much more severe than on the eastern side of the country, or at Bangalore; the north east monsoon seldom extends to Mysore, except in occasional showers.

This district was formerly divided into two *Fouzdaries,* or military divisions, that of Munjerabad and Astagram, the former comprising the north west portion, and Astagram the remainder. The country to the eastward is open and well cultivated, the soil being similar to that near Bangalore, viz. red earth and quartz. On the banks of the Cauvery where there is much cultivation, it assumes an alluvial appearance, and at a place called Muddoor, it is found to contain lime.

Diseases. The natives of Mysore chiefly rely on change of air in cases of fever, the popular idea being that no one attacked with Mysore fever, can perfectly recover, without a decided change of climate, and the experience of Europeans fully bears out this opinion.

The following are a few of the native remedies most in use.

Popular remedies. Fumigations with camphor and benzoin, are used in hœmorrhoidal affections; preparations of talc in asthma, icterus and dysuria; croton seeds or oil, in splenitis; sulphuretted oil, (or more probably naphtha,) in rheumatism; russa puspum in syphilis; and arsenic in intermittent fever.

Ptyalism is frequently induced by the inhalation of cinnabar, which sometimes occasions convulsions.

Horses. Horses are bred in large numbers, from the country or Silladar mares, by Arab horses, distributed over the country, for that purpose.

Bullocks. The breed of bullocks is small, and hardy; numbers fall a sacrifice annually to epidemic diseases, and the ravages of wild beasts. The chief epidemics amongst them are diarrhœa and fog sickness, catarrhal fever, mange, and the well known disease characterized by aphthous eruptions about the tongue and fauces, previously mentioned.

Produce. The productions of the country are, exclusive of the common grains, cinnamon, pepper, cardamoms, coffee, raw silk, cotton, sugar, sugar candy, teak and sandalwood.

Rice. Rice is cultivated to a considerable extent, in the neighbourhood of the Cauvery, by means of dams or annicuts.

Sago. The sago palm is common in the jungles, and is known by the name of buggeney or marr, it is one of the most graceful of the palm tribe in foliage and appearance, and is found in the greatest luxuriance throughout the jungles of Munjerabad and Nuggur; it grows to a considerable height and must attain a diameter of about two feet, before being fit for use. It thrives best along the edges of ghauts, and in the thickest parts of the forest, where it is sheltered from the sun and wind, and where the soil is consequently moist, and enriched with decayed vegetable matter.

The process of extracting sago is most simple; the tree being felled and the external or woody parts removed by a small country hatchet about two inches broad, the inner substance which is soft and spongy, and devoid of any cavity, has the appearance and taste of a coarse yam. This being chopped into pieces, and pounded in a common rice mortar, is formed into balls, which are held over an earthen pot covered with a thin cloth, and water poured slowly over them. The farina passes through the cloth, and is deposited in the form of a fine paste at the bottom of the vessel; the water is then

poured off, and the paste dried, when it becomes friable, and crumbles into a fine flour.

In Munjcrabad, where it is used as an article of food, the flour is commonly made into puddings, and eaten in the same manner as ragghy; but even in this part of the country it does not form a general or favorite article of diet, its consumption being usually confined to those by whom rice is not procurable, and an eater of sago is looked upon with contempt. Though chiefly confined to Munjerabad, where it attains its greatest perfection, the palm is also found in the talooks of Maharajdroog, Arculgode, Yedatoora, Mysore and Astagram. In the latter it is grown for the most part in sooparay and cocoanut gardens, and though generally inferior in size to the tall and handsome palm of Munjerabad, it attains nearly the same height, in situations, which in point of shade and moisture, resemble its native locality.

The quantity of sago which a full grown tree yields has not been correctly ascertained, but it is said to be about three maunds, or ninety pounds weight; the following statement however affords some information on this point. A small tree about twelve feet long, and from 7½ to 9 inches in diameter, was procured from the Wellesley tope, situated on the Mysore road near Seringapatam, and it appeared on examination, that not more than one inch of the outer wood was too solid, to admit of being pounded to a pulp, the whole of the interior, being a soft vegetable structure, which when treated in the manner above described, yielded about 14½ pounds of fine sago; the upper part of the tree was most productive, the fibres being there finer, and the farinaceous matter more abundant.

The sago tree is produced from seed, which may be sown in beds, and transplanted like young cocoanuts, and young plants are frequently found in considerable numbers at the foot of the parent tree. It arrives at maturity in from fifteen to twenty years.

Tapioca. Tapioca is found in Mysore, but not used as an article of diet.

District of Nuggur. The Nuggur district forms the north-western portion of the province. It is bounded on the

Boundaries. north by Dharwar, on the south by Astagram, on the east by Chittledroog, and on the west by Canara. From north to south it extends about 110miles, and from east to west 75, forming an area of 8,250 square miles. The nearest point to the sea, is at the Karnee ghaut, in the Saugur talook.

Rivers. It is traversed by the following rivers and streams, viz. the Toonga, Budra, Wurda, Nundery, Seetah, Comdivutty, Natravuty, Moodabanady, Vadawutty, Himavutty, Neting, Heredra, Charavutty, Cooshavutty, Dundavutty, and Nundy, all of which take their rise in the western ghauts. The principal of these are the Toonga and Budra, which have their sources in the mountain of Gungamoola, in the talook of Coopa. They at first diverge in nearly opposite directions, and afterwards flow parallel in a north easterly direction; and after about ninety miles unite at a village named Coodlay, near Holyhonore, eight miles north east of Shemoga, forming by their junction the Toonga-budra which flows in a northerly direction by Hurryhur. The Budra is very serpentine in its course, its stream is rapid, and it has a rocky bed chiefly of granite, which in some parts is in blocks of great size; the banks are high and steep, and several very populous villages are situated on them. Its water is considered very unwholesome.

The Wurda also deserves particular notice, it has its source among the hills in the north west extremity of the district, in the Saugur talook, and winding northward, passes within five miles west of the village of Anawutty, and afterwards flows into the Toonga-budra, at Meewoonee.

Several other streams or rivulets, the principal of which commence above Nuggur, take a north westerly course, and flowing over the ghauts, form the celebrated cataract of Joysee,

which falls over a perpendicular precipice of about nine hundred and fifty feet in height, into a vast chasm or abyss.

Tanks. Tanks are numerous in the open country, and several are of very large size; the most extensive is the Soolykerry lake, which owing to the failure of rain during 1835, 36 and 37 became nearly dry. Magnificent springs or wells are found on the tops of some of the highest hills, as the Motteetalab; and the Ghalikere, on the Bababooden, the last being

Wells. said by the natives to have no bottom. Wells are also numerous throughout the country, and generally of considerable depth, but the water is often brackish. The neighbourhood of Shemoga abounds in springs; and in the Mulnaad, the water is good, and met with near the surface.

Mountains. Several ranges of hills, or spurs from the ghauts, intersect the district, running in parallel lines from north to south. The most remarkable is the Bababooden mountain, on the top of which is a small extent of table land, rich in mineral and vegetable productions, and possessing a mild and temperate climate. The greater part of the mountain contains iron ore, from which large quantities of iron and steel are manufactured.

The hills in the Mulnaad are generally covered with jungle; in other parts of the district, the summits are quite bare.

Hill forts. The principal hill forts are Chundere, Gooty, Cowlidroog, Cuppadroog, Comendroog, Cubdroog, Gooerhangerrydroog and Belaroyendroog, the two first and the last named, are in good preservation, but the others are completely dismantled.

Forests. One half of the western side of the district is termed the Mulnaad, it is a dense forest of large trees, and thick underwood, extending to within six or seven miles of Shemoga. The teakwood which it produces is valuable, and in great abundance, as are also sandal-wood and ebony; it like-

wise produces the nux vomica, gurdenia damitorum, (used as a substitute for ipecacuanha,) and the chloroxylon dupada, a beautiful large tree, which yields the Indian rosin or dammer, from the seed of which a medicine is also obtained by boiling, and used by the natives as an embrocation in rheumatism and bruises.

That part of the district which lies to the eastward of the Toongabudra river, below its junction with the Loom at Holyhonore, is for the most part flat, and not very densely wooded.

Population. The population of the Nuggur district is computed at between 450,000 and 5,00,000; and the number of villages 5,319.

Houses. The habitations of the natives in general are low, thatched, mud buildings, having a small hole or two for ventilation; the more respectable inhabitants however have tiled houses, but with an equal disregard to ventilation; they are usually built in squares, with a small paved court in the centre, having a channel to carry off water, the rooms are small and dark, but the principal sitting apartment is commonly open in front. Many of the ryots houses are long and narrow, with sheds at the ends for the use of cattle. The villages usually consist of one principal street running through the centre, intersected at right angles by narrow lanes. There is in general a great want of cleanliness observable, and in many streets dunghills are formed on either side, as well as in front of some of the houses.

The inhabitants of the Mulnaad are a good looking race, and live less in groups than those of the plains, their dwellings being often detached from villages on the banks of streams, close to their fields and gardens; their cottages have a comfortable and cleanly appearance.

Shemoga is the *Cusbah*, or head quarters of the district, and is situated on the left bank of the Loongah river, about one hundred and ninety miles north-west of Bangalore. It is a

populous village, the principal streets are wide and clean, with gutters for drainage, and several good roads have lately been made leading to it. The most respectable inhabitants are brahmins who live in comfortable tiled houses, several of which are upstair buildings. It has a good bazaar, the inhabitants in general are healthy, and their habits are not different from those of the Mysoreans generally, except that in the Mulnaad, they are more active and industrious, cleaner in their persons, and more attached to their birth place, often pining away when removed from it.

Food. Rice, ragghy and joharree, constitute the chief articles of food, but the inhabitants of the Mulnaad live entirely on rice; the poor use various edible roots, found in different parts of the country, as well as greens, plantains, and jack fruit.

In Shikarpoor, Shemoga, Terrikerry and the Cadoo talooks, ragghy is the common food; and joharree in the talooks of Honally, Hurryhur and Chennegherry. Rice is either eaten boiled with curry, or with charoo, which is prepared by adding spices and tamarind to dholl water, horse gram being substituted by the poor; tyroo or curdled milk is frequently eaten with rice, particularly by brahmins; ragghy is prepared by grinding it, and boiling the flour with water, when it is eaten with chatney, butter milk, or the charoo; cakes are sometimes made of ragghy flour with the addition of a little jaggery; joharree is also made into cakes, and eaten with greens or other vegetables and chatney; sometimes it is coarsely ground and made into conjee. Ghee and oil are very generally used, as also chillies and spices; animal food is seldom eaten, and only on particular occasions, by those whose caste permit it. The lower castes are fond of toddy, which is obtained from the cocoanut, the caryota urens, or bhyni, and the wild date tree; arrack is distilled chiefly from jaggery.

Grain is cheap and plentiful, two seers of ragghy, one and a half of joharee, or one of rice being sold for a pice. In

times of scarcity the seed of the bamboo, called beder-akkee or bamboo rice, is also eaten; the husk is removed by pounding, and the grain is then ground and eaten like ragghy; in such seasons also, the poor in the Mulnaad, live on flour obtained from the sago palm, called by them *bhynitrit;* and it is said that a much larger quantity of flour is procurable from the tree, in times of scarcity, than at others; its continued use occasions griping pains, this however may be owing to the imperfect manner in which it is prepared.

Amusements. Strolling players from below the ghauts occasionally visit this part of the country, and people sit up all night in the open air to witness their performance. Puppet shows are also common about Chennegherry, dombcrdassaries, men dressed in female clothes, go about dancing in the villages with music, and jugglers and rope dancers, are occasionally seen. Various games are played with cards and dice, as also chess.

Cock and quail fighting are common amusements, and shooting is likewise a favorite pursuit; large hunting parties occasionally assemble, and game is in consequence scarce. In Coppa and Cowlidroog, bows and arrows are still in use, but have generally been superseded by matchlocks.

Popular remedies. In fever the most universal remedy is the warm bath; the patient is well smeared with common oil, and immersed up to his neck in a tub or trough of warm water, he is then well dried and made to drink a quantity of warm conjee, after which he is wrapped up and sweated profusely. A common domestic remedy at the commencement of fever, is a decoction of kalifeera, (sweet fennel,) and black pepper, sweetened with sugar. Honey, black hellebore and creyat, (justicia paniculata,) are given in fevers, but the disregard to proportions renders native prescriptions valueless. Mineral preparations are seldom used, nor are the native Doctors so well informed, or so bold practitioners as those on the eastern side of the province; they trust chiefly to nature, and to religious ceremonies.

Condition of the poor.

The poor are mostly day labourers, the greater part being paid annually in kind, they live in miserable huts, grouped together outside the villages; the dialy hire is four pukkah seers of grain, or, in money, three or four pice, and half that amount to females; but when sent to work at a distance, the wages is six pice per day. There are no public institutions for the support of the poor, and consequently those who are unable to work, live by begging.

Children are reared in general with very little care, no attention is paid to their education till they are seven or eight years old, and then only among the brahmins, and more respectable inhabitants; of those who attend school, most are withdrawn as soon as they are able to assist in cultivating land. There are schools in almost every village, and many of the wealthy employ private teachers, and allow the children of their poorer neighbours to participate in the benefits of the instruction—the pay of these teachers is about two rupees monthly, an estimate may therefore be formed of the state of learning, when the teachers are thus remunerated. Where the houses are much scattered, the teachers go about from house to house, and it may be supposed that this desultory mode of instruction cannot induce habits of very strict attention, either in the pupil or the teacher. Of the poorer classes few even learn to read.

Diseases of Cattle.

The following information respecting the diseases of cattle has been obtained from the * Aumildars.

Dodo Judda.

Dodo Judda or, great disease, prevails throughout the entire division. The symptoms are general heat of surface, watery mouth, prostration of strength, aversion to food, thirst, watery purging, sometimes mixed with blood, and inability to stand; it affects animals once only during life, and generally appears in cold weather. It is supposed to be contagious. The common remedy is firing on the chest and sides.

* Native civil Officers.

Kalbae. Kulbae Judda, or feet and mouth affection. This is also a very common disease, and has been noticed by nearly all the Aumildars as prevailing chiefly in the cold season, some cases however occur in the hot weather, but it is seldom seen in the rains. The symptoms are ulceration with fetid discharge from the edge of the coronet, and a copious flow of offensive saliva from the mouth, in which are numerous pustules, preventing the animal from taking the least nourishment, and consequently producing great debility. One of the natives describes the disease as follows, "between the hoof and integuments above it, are observed several cracks which expose the flesh, and fissures likewise appear on the jaws, gums and tongue, from which issues a watery discharge;" both it and the last mentioned disease are said to be produced by the use of impure water, unwholesome grass, and feeding on young joharree. The treatment consists in washing the feet carefully, and anointing the affected parts with oil. Oranges and the tender shoots of the bamboo, are given internally. In Soorub a paste made of cobweb, tobacco, and chunam, with ghee, is applied to the feet; and ripe plantains, with common oil, and nellee koye, (emblic myrobolon) are given internally. At Shemooga the animal is made to stand in a puddle, and an orange or lime cut in two, and sprinkled with turmeric powder and salt, is well rubbed on the tongue. In Terrikerry, dung and boiled rice are applied to the feet, and lime juice to the mouth; water in which rice has been washed is given as drink.

Gollalay. Gollalay, swelling in the throat, is mentioned as affecting cattle chiefly in the wet season, from the use of green grass. The treatment employed is firing the tumor, or scarifying the part, by drawing a branch of thorns several times over it.

Hulleegay. Hulleegay, pain and swelling in the chest, is a disease of common occurrence among cattle. It is caused by want of wholesome grass and water, and is most prevalent in the hot weather, firing on the chest and sides is the principal remedy, and if not resorted to in time, the disease proves fatal.

The following list has been collected from the Aumildar's reports, those above mentioned however, are considered the principal diseases.

Diseases of Cattle.

Nuldoo,—Dryness of the nose with shortness of breathing, belly puffed and confined, urine scanty, breath hot, the animal refuses both food and water; is caused by the use of muddy water, and is prevalent in hot weather.

Karloo,—Severe purging and swelling of the belly, with great weakness and inability to stand, considerable emaciation. Caused in hot weather by eating grass covered with dust, and in the wet season by grazing on karloo grass.

Shalay,—Restlessness, foaming at the mouth with oppressed breathing, said to succeed the disease called Nuldoo; prevails in hot weather.

Nar Nuldoo,—Evacuations consisting of small balls of thick tenacious matter, which may be drawn into fibres followed by leanness; the name signifies wasting of the body.

Ungullah Guppay,—Inflammation and enlargement of the tonsils.

Thullay Sooteenah or Erree Roga,—Turning of the head, the animal falling to the ground as in fits or staggers.

Toraburray Roga,—Difficulty of breathing, and inability to move.

Ludlay Roga,—Puffing of belly, with borborygmus and loss of appetite; prevails in hot weather.

Koray Hulloo,—A bony excrescence in the jaw.

Pinjavee Roga,—Great emaciation, langour and difficulty of breathing, prevails at uncertain seasons; probably caused by worms.

Shidaboo,—An eruption like itch over the body.

Hampayra,—Swelling and suppuration of the glands in the neck; prevails in cold weather.

Kurnamoodla,—Discharge of blood and matter from the ears, with swelling.

Hootcha Roga,—Looseness.

Ructa Baythee,—Purging of blood ; prevails during the rains.

The most unhealthy season for cattle appears to be the hot weather, when water is not only scarce, but stagnant, muddy and offensive ; the grass also is parched, and affords but little nourishment, and is moreover covered with dust. Young joharree plants, and the tender shoots of the castor oil, are said to be particularly injurious, as also a species of grass having a thick blade, called karloo, growing in water along the borders of tanks, and which harbours small insects. The rainy season is not considered in general unhealthy for cattle.

Diseases of horses.

Of the diseases with which horses are affected, the following are the most prevalent.

Koorkooree.

Koorkooree or gripes, prevails in the hot weather, and is caused by irregularity in feeding, three species of this disease are mentioned, viz. *kutcha koorkooree,* or wet gripes, in which the action of the bowels is healthy, but the urinary secretion is suppressed ; *sooka koorkooree,* or dry gripes, the most fatal, in it, retention both of the dung and urine occurs ; *bathee koorkooree* an intermittent form of the disease, the animal is attacked at intervals of from four to ten days, the paroxysms are but of short duration, and the symptoms are comparatively slight. One of the remedies in use consists of the following articles made into balls, tobacco, brinjal root, root of the castor oil plant, pepper, black hellebore and ghee ; another is, one rupee and a half weight of kooteekee powder, given in a seer of arrack ; a third consists of quarter of a seer of ghee, a pice weight each of pepper and adjuvan, and quarter of a seer of the juice of the bark of the castor oil plant soaked in water. In dry koorkooree one rupee weight of chillies, with a quarter of a seer of tobacco, adjuvan, lime juice, and radish juice, mixed and given as a drench.

Catarrhs.

Colds or catarrhs are treated by inhaling the smoke of burnt gunny, and giving green ginger and assafœtida internally.

Jaharbad. Jaharbad, a swelling commencing about the navel, and extending to the sheath and hind legs, occurs in rainy or cold weather; the treatment consists in giving cloves, mustard, assafœtida, ginger and mace, pounded together, and made into balls with the juice of the green ginger; fomentations with leaves, or warm sand, are likewise applied to the affected parts. Moonga, an eruptive swelling of the palate, with a discharge of mucus, and slight fever, prevails in the hot weather, and is treated by rubbing the mouth with powdered turmeric, and giving a mixture consisting of gajeegah, suppod, gajeegah thirooloo, with the leaf and kernel of the grey bonducca nut, chillies, pepper and tobacco.

Horses frequently die suddenly as in the Coorg country, from an inflammation of the larynx, attended with swelling of the glottis, which sometimes causes suffocation, in a few hours. The disease is not unlike quinsy.

Table of the disease of horses.

Singada,—Swelling, and suppuration of the glands of the neck; prevails in cold weather.

Paseenah,—An affection of the frog with a highly offensive discharge, the same disease when affecting the coronet is called *gird;* it prevails in cold weather.

Barrsatee,—Prevails in wet weather all over India.

Varvoo Anuth Oothurnah,—A disease of the testicles, in which one is retracted into the belly, with lameness of the corresponding hind leg; prevails in cold weather.

Aduzungah Varvoo,—Pain in the loins, with loss of muscular power; prevails in cold weather.

Bomanee Kamurz,—Falling off of the hair on the tail and mane, with numerous small tumours at these parts; said chiefly to affect grey horses.

Bowkeedah,—Pain in the chest, supposed to be caused by worms; the animal rolls on his back, and strikes the chest with the fore legs.

Moonjah,—Worm in the eyes.

Diseases of Sheep.

Dombay Roga,—A disease of the lungs with impeded respiration, and foaming of the mouth,occurring in damp weather.

Dodda Judda,—Or great disease, severe purging of blood and slime, passing lumps resembling pieces of flesh, aversion to food, watery discharge from the mouth; is very fatal, and prevails in hot weather.

Kul-bae Judda,—Or feet and mouth affection, similar to the disease of the same name affecting horned cattle.

Shullay Marrooloo,—Staggers.

Shiddooboo,—A very fatal and contagious disease similar to small pox, which occurs usually every five or six years.

Kul Jurrah,—Foot fever.

Malay Roga,—Cracking of the mouth.

Kennoo Roga,—Inflammation of the eyes.

Gona Roga,—Nostrils filled with viscid mucus, which impedes respiration, with dullness of spirits and loss of appetite.

Bil Roga,—Violent spasm drawing the body backwards,hence its name, which signifies bent in bow shape. Is very fatal.

Sheep as well as horses suffer most during the rains; they do not thrive well, and are not numerous in this part of the country.

Longevity of the inhabitants.

The inhabitants of this district are said to be long lived, and the following statement has been procured from the Aumildars.

	Talooks.	Ages of men now living.
Mulnaad.	Nuggur.	From 85 to 90 ten, from 70 to 74, three 75, 76, 78, 79, 85, and 90; one each.
	Saugur.	Of 90 two, 60 two, 65 two, 70 and 80, one each.
	Sorub.	Of 94 one, 70 to 78 five, 80, 81, 82, 85, 87 and 88, two, 90 and 92, one each.
	Cowlidroog.	Of 90 two, 70, 71 and 74 two each, 75, 76, 78, 80; 81, 85 and 86, one each.
	Coppa.	Of 70 eight, 73 two, 75, 80, 85 and 95, one each.
	Suckwoolly.	Of 70, 80, and 85 six each, of 75 four, 80 to 84, three.
Open Country.	Shikarpore.	From 80 to 100, nine.
	Chicamogaloor.	Of 72 three, 75 four, 77 two, 78 three, 80, 85 and 90, one each.
	Shemogah.	Of 90, 91, 92 and 95 three.
	Honally.	Of 70 four, 75 and 77 three, 80 two, 82 and 90 one each.
	Hurryhur.	Of 70 three, 75 five, 80 two, 85 three, 95 one.
	Chennegherry.	From 80 to 100, fourteen.
	Terrikairy.	70 to 73 seven, 80 to 85 two, 90 two, 95 and 105 one each.
	Cadoor.	70, 72, 73, 75, 77 and 80 five each, 85 three, 90 two.

The people of the hill country, appear from the above table to be the longest lived.

Diseases of

The most common disease throughout the district is intermittent fever, which is particularly prevalent in the Mulnaad, and many of the inhabitants have their constitutions completely broken from repeated attacks, and a considerable number labour under its common sequelæ, enlargement of the spleen, and visceral disease, terminating in dropsy. The type of fever is chiefly the quotidian, although tertians and quartans are met with, the latter as usual being the most

obstinate. Rheumatism, asthma, epilepsy, cancer and tænia capitis, are also frequent.

Diseases of Prisoners.

The prevailing diseases amongst the prisoners, are intermittent and remittent fevers, catarrh, dysentery and diarrhœa. Intermittent fever has lately been so mild, that the greater number of cases might have been marked as ephemeral; remittents prevailed with peculiar severity in the month of March 1836, when the weather was hot and oppressive, while no cases occurred in the corresponding month of the preceding year. In February 1835, an epidemic catarrh broke out among the prisoners and inhabitants of Shemoga, but the disease was of a mild character; great variation of temperature with high S. E. winds prevailed at the time. Dysentery was very common in the jail during the years 1835 and 36, in the months of May, June and July. In June 1836, it was particularly severe, at which time the monsoon had just set in. Diarrhœa has always proved to be the most fatal disease among the prisoners, particularly in those who suffered from visceral derangement, the effects of fever.

Influence of season on health.

May and June are usually unhealthy, sickness continuing until the monsoon fairly sets in; and it again increases at the change to the N. E. monsoon. The natives being lightly clothed, suffer much from the influence of the cold chilly mornings, and heavy dews which usually prevail, during the months of November, December and January. In some localites the hot weather is stated to be healthy, when the previous monsoon season has been favorable. The Shikarpore, Terrikerry and Cowlidroog talooks, are said to be healthy during the rainy season. With respect to the effect of winds, the natives all concur in stating the easterly wind to be the most unhealthy.

In the hot season bilious remittents and fevers, of a typhoid character, frequently occur, as also dysentery, bilious vomiting and purging, and ophthalmia.

The vicinity of tanks are found to be unhealthy, and the inhabitants of villages near them, are frequently seen with a pale bloated countenance, enlargement of the abdomen and thin emaciated limbs; the tanks are most unwholesome when they have been imperfectly filled by the rains. There are no tanks in Suckwoolly, but several families use the water from ponds at the foot of hills, which are filled by springs from above, these people are said to have pale countenances and to be subject to swelling of the abdomen.

Soil. The soil under cultivation in the Mulnaad, is either a whitish clay mixed with sand, or in the open country, black cotton ground; in Hurryhur, Buswapattam, Adjumpore and Cadoor, three fourths of the soil is cotton ground, and in Honally, about one fourth. The soil in the Shikarpore and Shemoga talooks is generally red and stony, mixed with sand.

Mounds of chowl munnoo, or earth containing an impure carbonate of soda, are met with in Chennagherry, Cadoor and Terrikerry.

Roads. There are no good roads throughout the district, except those in the neighbourhood of Shemoga.

Granite. Immense blocks of granite are seen in all parts of the country; and laterite is found in the talooks of Saugur, Nuggur, Sorub, Cowlidroog and Coppa. In Hurryhur, Chennagherry, and part of Honally, Kuttah kullo a soft laminated stone, is plentiful in the beds of nullahs, in the Toombudra river, and it is also met with in digging wells. Gravel is found in some parts Holyhonore, Hurryhur, Honally, Cowlidroog, Suckwoolly and Shemoga.

Produce. The following is a list of articles, the produce of the Nuggur district, omitting grains which are common to the province at large. Tobacco, silk, cotton, earth salt, sandalwood, ebony, blackwood, wax, honey, rattans, wild cinnamon, wild arrowroot, coffee, sago, wild cardamoms, teak, capela-dye, lac, cassia fistula, iron, iron ore, wool, biliany, talc, civit, ochre, hill oranges, limes and citrons.

Manufactures. The manufactures are pig iron, ploughshares, crow bars, maumutties, nails, horse shoes, steel in bars, cumblies, coarse cloths, cotton carpets, women's cloths, gunny, date mats, rush do., bamboo do., bamboo baskets, brass utensils, cotton thread, earth salt, hand-mill-stones, coarse paper, castor oil, gingilie do., corasanie do., cocoanut do., sandal do., linseed do., coasavi do., margosa do., doopada do., ghee, sugar, jaggery, dye stuffs, sealing wax, glue, and lime.

TOWN OF MYSORE.

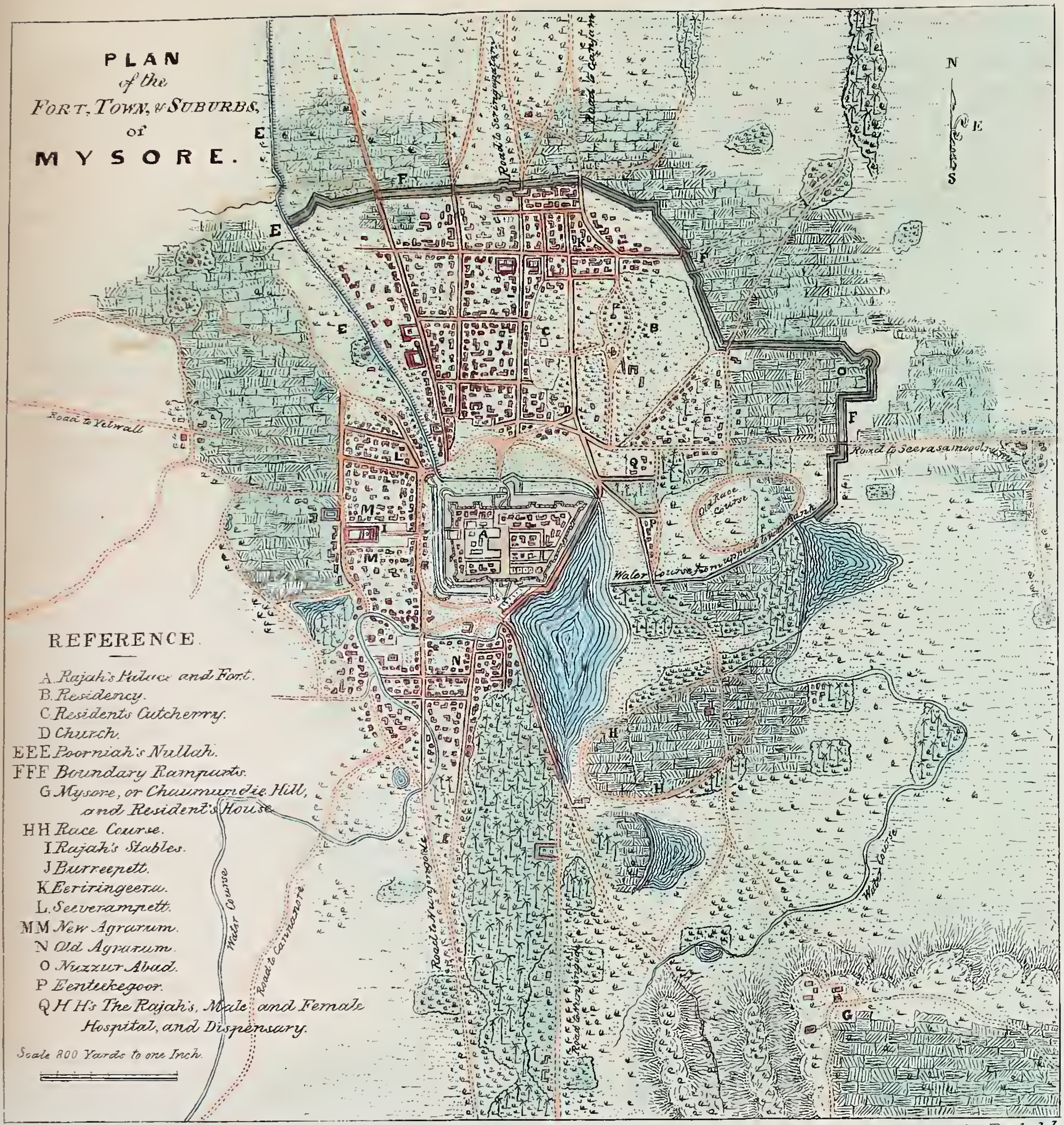
Situation. The town of Mysore, the capital of the province, is situated in latitude 12° 18′ N; and longitude 76° 42′ E., at an elevation of about 2,450, feet above the level of the sea, both it and the fort are placed on a declivity formed by two parallel ranges of elevated ground, running north and south.

It is distant 9½ miles south of Seringapatam; 294 south west of Madras; and 129 east of Cannanore, the nearest station on the Malabar coast.

Fort of Mysore. The Fort *forms nearly a square, three sides of which are each about 450 yards in length, the fourth being somewhat longer, it is situated on a gentle slope, the town being on the north-west and south sides, with a tank on the east. The fort wall is built of stone, having several bastions, and a deep double ditch, except on the eastern, or tank side.

The walls are about the height of the houses within them, most of which are two storied. There is a sloping glacis varying in breadth, from about 100 to nearly 200 yards, round three of its sides; the tank on the eastern side being confined by an embankment, upwards of 1,000 yards in length, running from the south eastern corner. The Agrarum, a part of the town occupied by brahmins, extends from the bund of the tank round the south and west faces of the fort, in which direction there are numerous gardens.

* See plan annexed.



Madras Lith. Press.

B. C. Regel. delt.

The Rajah's palace within the fort, is an extensive building forming three sides of a square, and the remaining space which is thickly populated, is occupied by substantially constructed houses, the residences of the Rajahnuds, and principal men about the court.

Pettah. The principal pettah, which lies to the north of the fort, is enclosed by a fortified wall. The Residency church, the Rajah's hospital, some gardens and a few native houses, occupying the space to the north east.

Many good and substantial houses of two and three stories high, are to be found in the pettah; and the streets are laid out with considerable regularity, the principal one running north and south, with others at right angles. The upper stories of the houses are supported on pillars, the intermediate spaces, in which small windows are left, being built up; the houses generally are covered with a pent tiled roof, except a few of the best which are terraced; and teak-wood, which grows abundantly in the neighbourhood, is much used in their construction. In the suburbs, there were likewise many good houses, but they are now falling much into decay.

Population. The number of houses in the town of Mysore, including the fort, is 9,558 and the population is estimated at 65,000, of whom about 14,000 are mahomedans, and 12,000 brahmins. Both the fort and pettah being fortunately placed on sloping ground, much of the filth which would otherwise accumulate, is carried off by the common sewers during the rains, and at other times is removed by scavengers for manure.

Surrounding country. From the pettah wall, the country slopes gradually to the north as far as the Cauvery river, on the road to Seringapatam. The Chaumundee hill, about a mile and a half to the south, rising abruptly to a height of nearly 1,000 feet, is of an irregular figure, and about $2\frac{1}{2}$ miles in length. It is of granitic formation, and its sides are covered with low brushwood, and stunted sandal-wood trees.

Soil. The soil, in and about Mysore, is red and gravelly, lying chiefly on decomposed basalt and gneiss, except in the vegetable gardens, and low situations near tanks, where it has been much improved, and is a dark alluvial mould.

Water. The water of wells is generally speaking, not good, being much impregnated with soda, and strangers are supposed to suffer attacks of fever and bowel complaints from using it; the inhabitants themselves prefer the water of tanks, the supply of which however occasionally fails, as happened in the year 1837, when much inconvenience was thereby experienced.

Poorniah's canal. During the time the *Dewan Poorniah was in office, a canal was opened for the purpose of supplying Mysore with water from the Cauvery, it was a work of vast labour and expense, having, in many places, to be cut through solid rock to the depth of 50 or 60 feet. The canal commences near Yeddatorah, about 27 miles from Mysore, crosses the Letchmanteert river, and in its windings traverses an extent of 73 miles; it enters the pettah at its northern angle, and joins the outer ditch of the fort. This canal has for several years been useless, in consequence of its banks having been destroyed not far from its source, and not, as stated by Fullarton, from the level being too high to admit of its being filled; and it is much to be regretted that it is not repaired, as although the estimated expense is very considerable, it would most materially contribute both to the comfort and health of the inhabitants of Mysore, independently of its value, as a means of irrigating the country through which it passes.

Roads. There are four principal roads leading into Mysore, affording free communication with the surrounding country, but they are at present much out of repair.

Climate. The climate of Mysore is, as might be expected from its elevation, comparatively cool,—the annual mean temperature in the shade being about 76°. The fall of rain is usually greater than at Bangalore; the prevailing winds are

* Prime Minister.

the north-east, and south-west, the former blowing from October to May, and the latter from May till October. The south-west monsoon, from June to August, affords the chief annual supply of water, though rain likewise falls during the north east monsoon, in October and November. The winds from December till April, are usually high and disagreeable; in December and January they are cold, and remarkably dry, causing furniture, which may have stood the heat of the Carnatic or Ceded districts, to crack and split. Fogs are very frequent in the mornings, after the termination of the south-west monsoon, and continue till January; but the country south of Mysore appears to be more subject to them then Mysore itself; this is apparently caused by the influence of two extensive ranges of hills, the Belgeerungum distant about 30 miles to the castward, and thc Neilgherries, about 40 to the south; the extensive plain stretching between them and the Chaumundee hill, being frequently seen covered with thick white fog, when the country to the northward is perfectly clear.

Prevailing diseases.

Mysore has long had the character of being very subject to fever, it is certainly still the prevailing disease, but it is believed to be less frequent than in former years, there are however no authentic records from which it can be ascertained if such is really the case. The type of fever is chiefly the intermittent, though severe remittents are occasionally met with. Affections of the spleen and anasarca, are the frequent consequence of obstinate intermittents. The period of the year at which fevers prevail, is the commencement of the south-west monsoon, when after continued drought and heat, the solar rays being then most intense, decomposition rapidly takes place, causing noxious exhalations to arise; the next most frequent period of sickness, is at the termination of the monsoon, and setting in of the cold weather, when however, the fevers are of a much milder type. At this season, rheumatism and bowel complaints are also very frequent. Ophthalmia is not so common in the Mysore country, as in the Carnatic; though cases of cataract are frequent.

As to hereditary diseases, the only one that can be looked on as such, is scrofula, severe cases of which occasionally present themselves at the Rajah's hospital.

There are no diseases peculiar to the different classes of manufacturers, trades being usually carried on here, as in other parts of India, so much in the open air, that the miseries seen in manufacturing districts in England from confinement, are unknown.

On the whole, the Mysoreans may be said to be a healthy race, and octogenarians are not unfrequently seen.

Longevity. Tables of marriages, births &c. are not procurable, and any calculations made from the police records, would be but of little value.

Management of children. Children are often nursed much beyond the period usual in Europe, not being weaned till the third or fourth year, though at the same time, they are allowed the ordinary food used by their parents.

Food. The food of the better classes is the same as in other parts of India, the lower orders live chiefly on dry grains, which are much cheaper than rice.

Clothing. The same remark applies to the clothing of the better classes; amongst the poor from the nature of the climate, the cumbly is in general use, the best and warmest descriptions of which, are made from the wool of the small Mysore sheep. A great variety of carpets and rugs, are likewise manufactured from this wool.

BANGALORE.

Description of cantonment & vicinity.

Bangaloor or Bangalooria, as it is called by the natives, a city and cantonment in the province of Mysore, formerly of considerable importance during the mussulmaun dynasty of Hyder Ally and his son Tippoo Sultaun, is now the head quarters of the Mysore division of the Madras army. It lies in latitude 12° 57 N, and longitude 77° 38′ E., and is celebrated for the coolness and salubrity of its climate, being situated on one of the highest ridges of the table land of Mysore, 3,000 feet above the level of the sea; it is nearly midway between the coasts of Coromandel and Malabar, being distant 205 miles from Madras, and 230 from Mangalore. The military cantonment, with its extensive pettah and bazars, is nearly 2½ miles in length, by about a mile in breadth, and lies 2 miles east of the fort of Bangalore.

Its appearance at a distance, is peculiarly pleasing to the eye of one accustomed to view the brown arid plains of the Carnatic; on approaching the cantonment, trees are so thickly planted in the different compounds, as to give a beautiful wooded appearance to the scene. The immediate surrounding country is generally barren, and the ground extremely undulating, the ridges which are not of any very great height, running for the most part in an easterly and westerly direction.

Geological observations.

The soil is more or less of a reddish colour, and is intersected with deep ravines in all directions; around Bangalore it may be divided into the very red, the reddish brown, the clayey, and the white silicious, or stony earths.

On the eastern or Madras side, from the village of Kistnarajapoorum, and some way beyond, to about two miles before reaching Bangalore, white soil prevails, the ground being barren and little of it under cultivation, beyond a few

acres near some of the villages. Granite and gneiss rocks are scattered over the face of the country, with occasional rocks of hornblende jutting out; near the village of Madapullay, about two miles beyond Kistnarajapoorum, a range of hornblende hills runs in a southerly direction for some miles, flanked by rocks of granite and gneiss. The soil around this range is of a redder colour than that around the granitic formation. Near the above mentioned village of Madapullay, the greater part of the kunkar which supplies Bangalore with chunam, is found in a valley running nearly north and south, below the bund of a tank,—rude kilns are erected on the spot, for burning it, and the kunkar which exists in nodules, lies at the depth of from seven to nine feet from the surface. In digging for it a light brown earth is first met with,for a depth of two feet, next to which is a layer of white clay one foot in depth, to this succeeds a blue clay intermixed with a little red earth, of four or five feet in thickness, and then a whitish earth or clay in which the nodules are embedded. To the south east of Bangalore, a valley extends from near the fort to a village called Agram, in which direction, numerous tanks are seen, particularly during the wet season.

To the south and north west, the country is covered with immense blocks of granite and gneiss,—the large masses of granite heaped one upon another, assuming fantastic shapes, forming rocky hills, which from time, and the effects of climate, are gradually mouldering away.

In the neighbourhood of Bangalore, there is much bleak uncultivated ground, overgrown with long grass; patches of cultivation only being met with near tanks, and around the villages. The nearest jungles are distant fifteen miles, in a south westerly direction.

Gneiss is the most abundant rock, and it has been correctly observed by Dr. Benza, in a paper published in the Madras Journal of Literature and Science, that "gneiss is the universal subjacent rock, in the table land of Mysore." The process of decomposition of this rock, is proceeding most rapidly,

as can be distinctly traced in the several ravines; and large masses are to be found retaining their shape, although in a soft crumbling condition; the only parts not affected being veins of quartz by which they are traversed.

In digging to any depth, as in forming wells, after several feet of a reddish brown soil have been passed through, gneiss rock in almost a perfect state of disintegration is met with, in the form of a whitish stony earth. In the valleys felspar decomposes into clay, which is used by potters or chatty manufacturers. Several quarries of gneiss are worked close to the cantonment, and the process is regulated according to the direction of the strata; if horizontal, which is most usually the case, logs of wood are burnt for two or three days over the part of the rock marked out to be separated, small iron wedges are then inserted at certain distances, and struck forcibly with a large hammer, one after the other, till the block cracks and comes away, when large veins of quartz run through the rock the operation becomes more difficult, as the fire has little or no effect on them. Dr. Benza mentions that cold water is thrown on the slab or stone after being heated, but it appears that this is not always requisite. When the strata proceed vertically, heat is not necessary, wedges alone being sufficient to separate the slabs.

The felspar, which enters so largely into the composition both of granite and gneiss, is generally white, but it is also at times of a pale flesh colour; and the proportion of mica is occasionally large. The deep ravines met with throughout Mysore disclose changes that otherwise would pass unnoticed. Mica, felspar and quartz, are found to be undergoing rapid decomposition, extensive beds of mica, veins of quartz, and masses of felspar being seen in a crumbling state. Mica decomposes into a beautiful white, greasy or viscid earth, called shidy munnu, which is used as a sort of white wash. Quartz becomes oxydised, and often assumes a pale violet colour, and with the mica and felspar forms a variegated coloured earth, of a pinkish hue; this change however only takes place in ravines of the greatest depth. Mica occurs

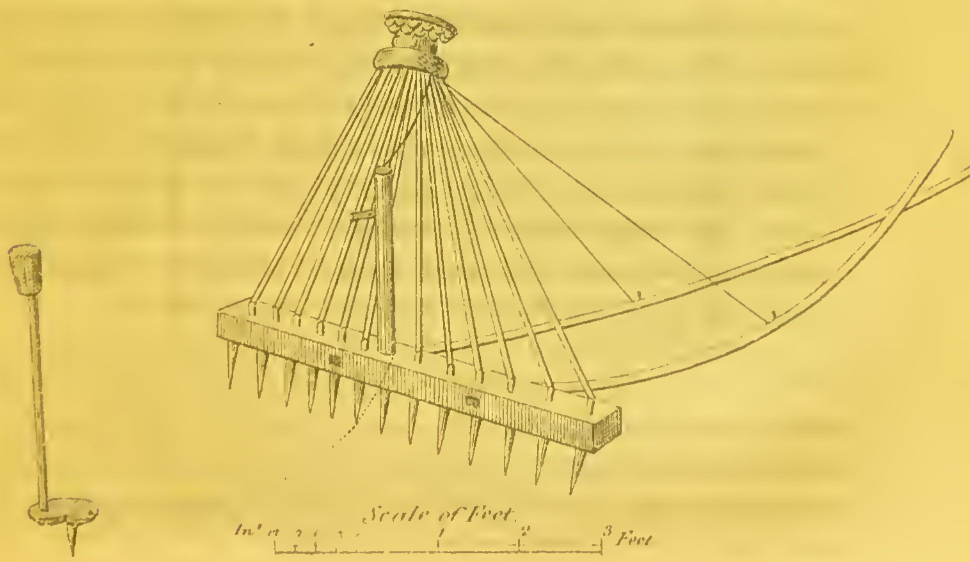
in large masses, and is of a blue metallic colour; and the sand at the bottom of ravines, glistens with the quantity of this substance washed down by the rains; when mica unmixed with quartz or felspar becomes decomposed, it forms a beautiful greenish yellow earth. Hornblende in some of the nullahs, is found between masses of gneiss, and decomposes into a red soil, it first passes into slate, and then yellowish earth; quartz-pebbles are found adhering together through the medium of a clayey earth, these masses become in time very hard, and answer to the description given of the Nellore laterite, by Mr. Cole in the Madras Journal of Literature and Science. On the surface of the hornblende, a coating of iron may frequently be seen; and iron stone is often found in close proximity with it. At the north-west angle of the pettah, a basaltic dyke is seen traversing gneiss, and another is found at some distance to the eastward.

Earthquakes. Slight shocks of earthquakes have been felt at different times, and after one of these in 1829, the water in some wells is said to have become brackish.

Iron. Iron is found in great abundance in Mysore,
Gold. and gold was discovered by Lieutenant Warren in 1802, at Warrigrum, a small village 4½ miles S. W. of Baitmungalum, and also on the banks of the Palaur river, and the Ponian near Coargoory. Gold was also found at Marcoopium, three miles south of Warrigrum, where mines were formerly worked. It having been ascertained in the time of Tippoo, that the produce merely balanced the expence, he discontinued working them. The ore was found in large stones of a silicious or quartzy nature, and of a black, changing to deep rust colour, to which generally adhered an orange coloured soft clay. The proportion generally obtained by Lt. Warren was one grain of gold, in 12 baskets of earth, taken indiscriminately.

Agriculture. Agriculture is not in a very advanced condition in Mysore, and the fields are scratched by a plough, of very primitive construction, so small as to be capable of being carried on a man's shoulder; decayed leaves, and the ashes of cowdung, usually form the only manure used. Raggy or

natchny, the cynosurus corocanus, is the most common grain, and forms the principal food of the lower orders. It is sown in the beginning of the wet season, and cut about November. In good seasons, on an average for the last 10 years, the produce has been from 50 to 80 fold. It is used both in puddings and cakes; and the straw is eaten by bullocks, but is said to cause mange in horses. Next to the raggy, is the mutchay cottah, dolichos lablab, a plant bearing pods which contain from 3 to 6 beans each, it is planted in rows between the raggy, and is given to bullocks mixed with gram; it is said to increase the quantity of milk in cows. Jowary, or pigeon pea, is also much cultivated. The cholum, great millet, the common food of the inhabitants in the Mahratta country, is grown for cattle, but is not eaten by the people; according to Ainslie, it is the dourra of Niebhur, it grows to the height of 10 or 12 feet, terminating in a large head or cluster of seed. The poolchei keeray, or hemp leaved hibiscus, a plant with a large and beautiful flower, of a delicate yellow colour, the leaves of which are eaten boiled, and taste like sorrel; the calyx is used in tarts and jelly; and small rope, is made from the stalks. The raggy, mutchay cottah, jowary, cholum, and poolchei keeray, are all sown together in the same field, by means of a simple wooden machine something like a harrow, a sketch of which is here given.



Much colloo, or horse gram, is grown and also the ver cádálay, or Manilla gram, although not in the least resembling gram; it is the gronnd nut of the West Indies. The mukka cholum, or Indian corn, is only cultivated in gardens in small quantities. Wheat is not grown in the neighbourhood, but is brought from the Salem and Darwar districts, that from the latter is considered the best; wheat flour is said to be sometimes mixed with cholum, and when so adulterated the bread soon becomes mouldy and sour.

Tobacco, spirits and intoxicating drugs. Tobacco thrives best in the red soils; the contract for the exclusive sale of this article, in the cantonment bazaar, is sold for about 27,000 Rupees annually. A revenue is also derived from the sale of the contract for spirituous liquors, and intoxicating drugs, amounting to about 1,00,000 Rupees annually.

Flower gardens. Gardens are attached to almost every house in the cantonment, in which most European flowers grow luxuriantly; rose trees, of which there is considerable variety, blossom throughout the entire year; the violet, honey suckle, and sweet briar also thrive well, and the two former produce an uninterrupted succession of flowers. The climate seems extremely favourable to all the varieties of geranimus, and also to dahlias, which can be cultivated to any extent, and in endless variety of colours; they are obtained either from seed or roots, but in the latter mode of cultivation, the same colours only are perpetuated; the copaiba tree is found in some of the gardens; the myrtle, the wax plant, or gigantic jessamine, also the white and yellow jessamine, the coral plant, satropha multiffida, china pinks, the yacca or dwarf aloe, the cape broom, balsams, stocks, sweet william, mignionette, carnations, wall flowers, leadwort, larkspur, lupins and holyhocks, are all common.

Fruit. Strawberries are abundant and in great perfection, but the plants soon degenerate, the beds requiring to be renewed every year; the vine is not much cultivated, but good grapes are occasionally produced; peaches grow very well, and

bear twice a year, they are produced either from seed, grafting, budding, or from layers; a large blue plum grows well, but is rare; the aracado, or aligator pear, arrives at great perfection, and is much esteemed; the loquat tree, mespilus japonica, is found in almost every garden; oranges and limes abound, but lemons are scarce; the pumplemose is small and indifferent; water melons are good, but musk melons do not grow well. The mangosteen tree thrives, it however seldom produces fruit, and when it does, it is unfit for use. The mango is of an excellent quality and improves by repeated grafting. Apples are common in all the gardens, and are pretty good; the trees are produced either by grafting or budding on the stalk of a small country apple, or on the loquat; several persons cultivate apples for the market, and send the produce to different parts of the country. The pear tree produces fruit, but of a very inferior kind.

Vegetables. It will be sufficient to enumerate the vegetables, which are generally excellent and almost always in season; cabbages, cauliflowers, broccali, carrots, turnips, radishes, knol-kole, asparagus, peas, beans, celery, lettuces, endive, chervil, and pot herbs of various kinds; parsnips do not come to perfection for want of frost. Potatoes are excellent, and as good as those grown on the Neilgherry hills; they succeed best in the light red soil.

An Horticultural Society was established a few years since, from which much was expected, no part of southern India being better adapted for carrying on experiments in agriculture; it has however been broken up for want of general support.

History of Bangalore. The Romulus of Bangalore, is recorded to have been a personage of the name Campa Gond, or Kempa Gonda, he was lord of the country of Yellavunkum, about eight miles from Bangalore, lived nearly 300 years ago, and built a famous Pagoda at Ulsoor. It is mentioned that once whilst out hunting, a hare suddenly attacked his dog, and considering this extraordinary circumstance to indicate the place being warlike ground, he cut down the jungle

and erected a small fort, with a pettah, on the spot, which he made his principal residence. He built and endowed several pagodas, established a mint, and governed Bangalore for 45 years, and is said to have ruled with justice. One benevolent act of his is recorded, that of suppressing the barbarous custom in his family, of cutting off some of the fingers of the females, as offerings to the deity, and substituting fingers of gold and silver in their place. He was succeeded by his son Emadee Campa Gond, who reigned for 45 years, and was defeated by an army from Beejapoor, and obliged to fly from his country. Shahajee Rajah the conqueror,then took possession of Bangalore, and made it his capital ; he was succeeded by his son Soombhajee—Rajah Surut Sing afterwards ruled 20 years, and Eekogee Rajah 23 years. At this period, Ramad Oolla Khan, arrived from Beejapoor in order to settle the affairs of the Carnatic, and constituted Cassim Khan Foujdar of the talooks of Bangalore and Hooseottah, he attacked the fort and pettah of Bangalore, and after a protracted seige, with the assistance of the Mysore Rajah, it was taken, when Eekogee fled to Tanjore. In consideration of the assistance of the Mysoreans, a negociation was opened, and the Rajah of Mysore purchased the district of Bangalore and fort, from the Mogul, for three lacs of Pagodas, equal to £105,000 sterling. From this period to the usurpation of Hyder Ally, Bangalore belonged to the Rajahs of Mysore, and was ruled by them sixty eight years. In 1758, Hyder as a reward for his services in suppressing a mutiny in the Mysore army, received Bangalore as his personal jaghir, and in the reverses he met with before obtaining the supreme power, frequently fled to the fort for protection. Under this prince, the fort was re-built from its foundation with stone and chunam, and was mounted with 72 guns. On the 5th March 1791, Lord Cornwallis' army took ground in the neighbourhood ; the pettah was first stormed and taken ; and on the 21st of the same month a breach having been effected in the wall, the fort was carried. It was again thoroughly repaired, by Purneah the celebrated minister of the Rajah of Mysore, in the year 1802.

Pagodas. There are several Pagodas about half a mile distant from the fort, which are held very sacred by the natives. On a hill immediately in a line with the Mysore gate, are three of these, one of which contains an immense figure of Ganesha, the god of wisdom, a huge personage with an elephant's head, and an enormous pot belly. On the top of an adjoining hill, is the Basawana pagoda, containing a large bull cut out of stone. To the westward there are some other hills, in one of which some caves have been built over, and converted into a pagoda, dedicated to Siva, and considered extremely sacred; near to this is a beautifully constructed bund of a tank, which was cut through during the reign of Hyder; all these objects are well worthy of inspection, but the fables and absurdities attached to them are beyond credence. Around Bangalore are several small towers; one on the rock at Ulsoor, another on an eminence to the north west, called the *belfry*, said to have been placed there by Kempa Gond, to indicate the vast extent to which the city founded by him, was expected to reach. On the centre of the bund of the Ulsoor tank, is an immense rock of gneiss; from which there is an extensive view of the northern side of the cantonment. The following legend, relative to Kempa Gond, is attached to this rock. "It is related that Kempa Gonda fell asleep one day somewhere near Ulsoor, and that the god Sowswar, who was buried in the sand near, appeared before him and informed him, that seven brass vessels full of money were buried under the rock; he was desired to take them, and build therewith a Pagoda, to be dedicated to himself; which Kempa Gond accordingly did." The Pagoda so built still remains, and was some years ago thoroughly repaired, it is a very large building, and may be called the "Westminster Abbey" of Bangalore.

Many influential natives of high caste, attached to the public departments, reside near it, in consequence of its sacred character; and it is imagined to this day, that there are caverns beneath the rock, in which are contained much treasure.

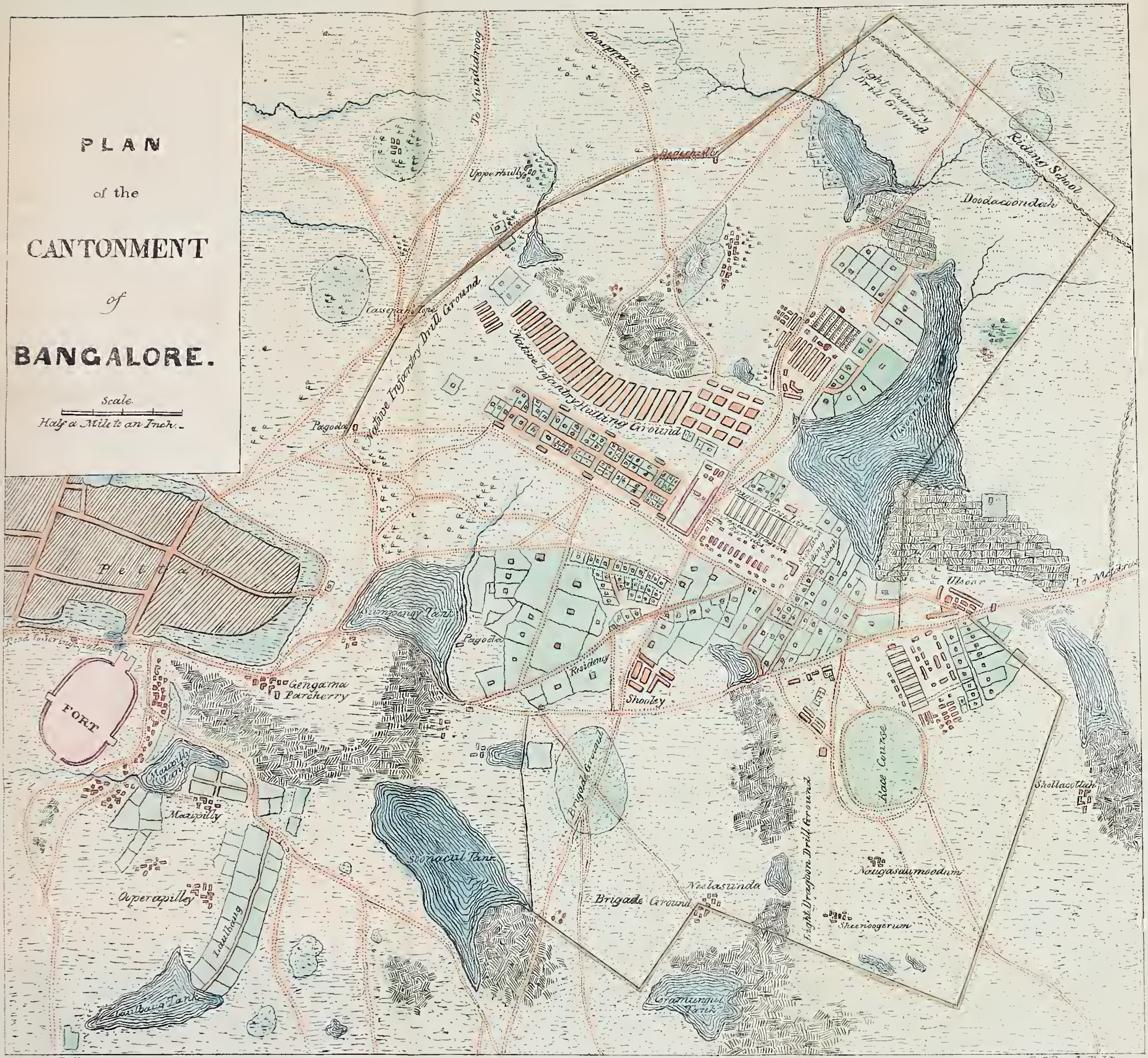
Military force. The force usually stationed at Bangalore consists of the following troops, viz.

1 Regiment of European Cavalry.
1 do. of Native do.
1 Troop of European Horse Artillery.
1 do of Native do. do.
1 Company of European Foot do.
1 Regiment do. Infantry, and from
2 to 4 Regiments of Native Infantry.

General arrangement of the cantonment.

The cantonment, a plan of which is given, was first garrisoned in 1809, although the erection of barracks was commenced some years previously; it stands on an elevated ridge of ground running east and west, and sloping to the north and south. On the highest portion of the ridge, at the extreme right, are the barracks of the horse artillery, and on ground somewhat lower, those of the foot artillery; a distance of about a quarter of a mile intervening between them. Next to these are the cavalry and European infantry barracks; then the places of arms of the native regiments, parade ground and main guard, all of which are nearly in a line, extending about two and a half miles. The native cavalry lines are thrown back to the northward, near to the Ulsoor tank.

The village of Ulsoor at the entrance to Bangalore, on the eastern side, lies low, the ground rising gradually from thence, to the west end of the cantonment, where the infantry review ground is situated, and a little beyond this is a slight eminence, on which is the *belfry*, the highest spot of the table land of Mysore. Another ridge runs also east and west, immediately above the cavalry lines, and between these, or rather on the slope leading from the one towards the other, is the general bazaar. In the valley below the bazaar there is a deep, but not broad nullah, which carries off the water from the northern side of the cantonment, and into which the drains from the barracks also empty themselves; this nullah terminates in the Ulsoor tank, the water from which after irrigating a large tract of paddy fields, on the borders of the village, passes round it, into another reservoir called the Dumalore tank.



Madras Lith. Press.

B.O. Regel Del.

The water from the southern aspect of the cantonment, flows into the Sumpongy tank, on the road leading to the fort.

Race course. The race course, which stands on an open elevated piece of ground, forming the boundary of the cantonment on the south east side, is a mile and a half round, and has a handsome wooden stand, and racket court attached to it, both erected by the present Rajah of Mysore.

European burial ground. Not far from the race course is the European burial ground.

Leading from Ulsoor to the west end, are the two principal roads, an upper and a lower one, connected by means of cross streets ; on the sides of these are many of the houses occupied by the officers, placed in extensive compounds.

European cavalry barracks. The *Dragoon* barracks, built of brick and tiled, and surrounded by a wall nine feet in height, are admirably situated ; they consist of eight ranges of buildings at the distance of 126 feet apart, one for each troop. The ground on which they are built is a reddish soil, sloping gently towards the north, so that no water can collect near them ; the buildings run north and south, each range being 224 feet in length, 43 in breadth, and 12 feet in height; having 8 doors, and 32 windows, and surrounded by verandahs 9½ feet wide. At both ends of each barrack, are two non-commissioned officer's rooms, 8 feet wide, and 18 feet long, having one door and 3 windows. The space from the barrack to the south wall, is 58 feet, and to the north wall, 400 feet; along the north wall are the huts for the married soldiers, the defaulter's-room, cook-room, school-room, and orderly-room; and at each end of the south wall are three cells, and a round tower or magazine. In the middle of this wall, is an arched way forming the principal entrance, above which are three guard rooms lately erected; within the walls are also situated the serjeant major's quarters, the canteen, a skittle ally, racket court, gram godown, the regimental store room, and two ranges of privies.

Horse lines. Between the barrack and the tank are the horse lines, each troop occupying two ranges, along which trees are planted to afford a shade for the horses,—at the top of the lines are the sick stables.

Hospital. The hospital is situated outside the barrack, 107 yards from the eastern wall. It consists of two buildings, the largest forming three sides of a square, facing the south, and surrounded by a verandah 7½ feet wide, it is divided into four wards; the largest, occupying the whole length of the south side, is 101 feet long, 18 broad, and 12¾ high,—the east ward is 61 feet in length, and 18 wide,—the west end is divided into two wards, one 34¼ feet long, and 18 broad, the other being 25 feet by 18. At the distance of a few yards from the principal building, is a convalescent ward, 84 feet by 18, and surrounded by a verandah. There is also a surgery, dead house, godowns, cookroom and a privy with a covered way leading to it.

These buildings are surrounded by a wall 9 feet high, the extent of the enclosure being from north to south 270 feet, and from east to west 200 the distance from the hospital to the wall being about 40 feet.

The following are the dimensions of the several appartments in the hospital.

Description.	Length and Breadth.
Hospital Serjeant's quarters	25 feet by 12.
Guard room	12½ do. do.
Cook do	38 do. do.
Store do	20 do. do.
Pupils do	20 do. do.
Surgery	12 do. do.
Verandahs	7½ feet wide.
Acute cases, ward	101 feet by 18.
Womens do	27 do. do.
Ophthalmic do	34 do. do.
Surgical do	61 do. do.
Convalescent do	84 do. do.
Privy	25 do. 10.
Water shed	14 do. 8.
Dead house	21 do. 10.
Bathing rooms	7½ do. 7½.

European Infantry barracks.

The European infantry barracks are inferior to those of the *dragoons*, and are only separated from the bazaar by a road. They are situated on somewhat elevated sloping ground, are built in the form of a square, and consequently not surrounded by an outer wall, or verandah.

The south, east, and west sides of the square, are occupied by the soldiers; the south side is divided into three apartments, 135 feet by 18 each, and 14 feet high,—the east and west sides are also divided into three apartments, each of 166 feet in length, by 18 in breadth, and these rooms are from three to four feet higher than those in the southern range. The north side of the square consists of the non-commissioned officers apartments, also the orderly rooms, stores, cooking houses and privies. In consequence of there being no verandahs to the outer faces of the square, the apartments are hot during the day, and also at night when the windows are closed, and when left open, currents of air are produced, which give rise to catarrhal and febrile affections. The accommodation is in other respects good, and sufficient for a regiment of 800 men; ventilators are placed on the roofs of all the apartments.

The entrance to the barracks is by a gate way in the southern range, over which, is the officers guard room, 18 feet by 12.

Hospital.

The hospital, which is surrounded by a wall of about 8 feet in height, is situated immediately in rear of the barracks; it consists of two parallel ranges, of one story high, distant 51 feet from the compound wall, and 61 feet from each other.—Each range is 158 in length by 18 in breadth, and 11 feet high, with verandahs 8 feet wide, and is divided into two wards, one 105, and the other 53 feet in length,—at the inner and north side of each range, are two other wards 19 by 18 feet.

It is built of brick and chunam, and the floors are raised three feet from the ground. The windows are $5\frac{1}{3}$ feet high,

by 4 wide, and are furnished with double shutters, the upper half being glazed ; the door ways are nearly 7 feet in height, by 4 in width. Six small buildings are ranged along the southern wall, facing inwards, which are used as the surgery, office, dead house, cook-rooms, godowns, &c. ; and there are likewise two privies near the north wall, which communicate by covered ways with the hospital.

In rear of the hospital, are the canteen, ball and skittle courts, the regimental bazaar, and parcherry, the latter forming nine rows of cottages, for the married soldiers.

The whole of these buildings occupy a space of 434 yards in length, by 234 yards in breadth.

Main guard. Next in line to the European infantry barracks, is the main guard and brigade major's office, in the same building, and at regular distances of 250 yards, the Places of arms. places of arms for four native regiments,—behind which are the houses occupied by the European officers,and in Native hospitals. rear of these, the hospitals. The places of arms and hospitals are constructed on a uniform plan, the latter consisting of one large ward, upwards of 90 feet in length, and about 20 in breadth, with a surgery at one end. They are built of brick and tiled.

Sepoy's lines. The sepoys are hutted near the western end of the bazaar, and it may be observed, that immediately in rear of the houses and close to the bazaar in most of the lines, are small burial grounds, almost in contact with them.

Garrison hospital. The garrison hospital in the fort, consists of eight wards, those on the right hand side on entering, being for the accommodation of native, and those on the left for European sick. The surgery is in the centre of the front range, on each side of which is a large ward, 70 feet in length. The side wards are 65 feet by 18 ; the rear part of the building consists of an office, and two apartments used as store rooms. The other offices consist of a dead-room, cook-room and privies, in separate buildings, belonging to the European part of the hospital,—and a

congee-house, cook-room, and privies for the natives. The whole is surrounded by a wall, and it is much the best hospital at the station.

Lock hospital. The lock hospital was also formerly within the fort.

General bazaar. The general bazaar is situated immediately in rear of the European infantry barracks, and occupies a considerable extent of ground.

The roads which are made of laterite, are kept in excellent order; and the compounds belonging to the European officers are generally large.

Besides the Episcopal church, before mentioned, there is a chapel in the native infantry lines, belonging to the "London missionary society," lately erected by subscription; and another in the dragoon lines, belonging to the "Wesleyan establishment." Public rooms. The public rooms, a commodious building containing a theatre and a library, are opposite the cavalry barrack.

The fences dividing the compounds are formed either of the aloe or milk hedge, and every endeavour is making to remove the former altogether, and to substitute the milk hedge, which is much cleaner. Trees are planted along the sides of the roads as well as in the compounds, and unless planting is restricted, Bangalore will in a few years become a complete jungle. The trees are chiefly varieties of the Indian fig, the neem, and the poplar leaved hibiscus.

Climate. Bangalore may be considered one of the finest climates in India, being cool and pleasant throughout the greater part of the year. The sun is generally powerful, but in the shade, and in the house it is always cool. The mornings and evenings, during the months of October, November, December, January and part of February, are cold, and blankets are indispensably necessary at night. The mornings in these months, particularly December and January, are often moist and chilly—there is generally much fog, or the clouds

approach so near as to rest on the surface of the earth, and there are likewise heavy dews. March, April and May, are somewhat disagreeable, in consequence of the prevalence of strong dry winds, which raise clouds of dust, but the nights are seldom oppressive even in the hottest seasons. In April and May, there are sometimes what are called mango showers, but these are very uncertain, and frequently fail altogether. About June the south west monsoon commences, the approach of which is known by clouds collecting for some time before the rains commence. June, July and August constitute the wet season. The monsoon months are very agreeable when the sun is obscured, but should the sky be but partially overcast, the heat often becomes intense, from the refraction and concentration of the sun's rays.

The following general remarks on the weather, with a tabular statement shewing the average thermometrical and barometrical range for each month, during a period of five years, may be considered interesting.

	Thermometer in the house.				Ther. exposed.			
	Extreme range during the month.	Extreme daily range.	Min. daily range.	Average daily do.	Highest in the sun.	Lowest when exposed.	Extreme variation in the open air.	Range of Barometer.
January,—The mornings and evenings are cold and chilly; mornings frequently hazy and sometimes foggy, much dew, no rain, wind easterly, and north east.	from 64° to 77°	10	3	7	108	57	51	from 26° 98″ to 27° 09″
February,—Pleasantly cool and agreeable, mornings and evenings chilly. Wind for the most part easterly and variable, occasionally rather high,—4 rainy days in 1831,—5 in 32, and 1 in 34; none in 33, or 35.	from 67° to 83°	12	6	8	112	61	51	from 26° 94″ to 27° 08″

March,—The beginning of the month pleasant, towards the end rather close, and heat of sun oppressive. Wind easterly and very high towards noon; blowing in strong gusts, with clouds of dust, vegetation parched, and withered—6 days of rain in 1831, 2 in 34, and 1 in 35, none in 32 or 33.	from 71° to 87°	12	6	9	112	64	48	from 26° 92″ to 27° 09″
April,—Hot and oppressive, sky generally cloudless, a few partial showers, air hot dry and parching. Winds variable, often easterly in the morning, and westerly towards evening, following the course of the sun. In 1835, 6 days of partial rain with thunder and lightning, none in 1831, 32, 33, or 34.	from 73° to 86°	11	5	8	111	64	47	from 26° 88″ to 27° 00″
May,—The weather less oppressive, particularly towards the end of the month, often cloudy; 15 days of rain in 1831, only 5 very partial showers in 1832, 13 days rain in 1833, scarcely any in 1834, and 10 days in 1835.	from 73° to 89°	11	5	8	110	67	43	from 26° 82″ to 26° 99″
June,—Cool pleasant & cloudy, with constant showers; 15 days rain in 1831, 10 days light rain, and 4 days of rather heavy rain in 1832, 11 days light rain in 33, much rain in 1834, on the 8th of the month 4 inches fell, and on the 23d, 5 and 3-5th, altogether 13 and 4-5th, in 1835 there were 10 days of heavy rain.	from 70° to 84°	11	4	7	102	66	36	from 26° 80″ to 26° 93″
July,—A very pleasant month, much rain, mornings hazy, sky cloudy and weather often squally; evenings pleasantly cool; 18 days rain in 1831, scarcely any in 32 or 33, except partial showers, 3 inches and 4-5th 1834, and in 35 nearly 6 inches.	from 68° to 81°	9	3	7	93	65	28	from 26° 77″ to 26° 91″

August,—Also a rainy and cloudy month, and in consequence pleasant to the feelings, but sometimes raw and chilly with frequent heavy squalls, mornings often hazy ; 22 rainy days in 1831, scarcely any rain in 32 or 33, except towards the latter end of the month, when much rain fell, with a complete change of temperature, 8 inches and 1-3d having fallen, 4 and 4-5th in 1834, and 4½ inches in 35, when there were light rains on 27 days.	from 68° to 79	9	2	6	98	64	34	from 26° 79″ to 26° 96″
September,—A pleasant month, evenings & mornings agreeably cool, sometimes much rain & cloudy, 21 rainy days in 31, 17 in 32, some heavy rain in 33, in 1834, 6° 08 inches, and 14 inches in 1835, of which 6 inches fell between the 25th and 29th.	from 68° to 79°	8	2	5	105	65	40	from 26° 80″ to 26° 95″
October,—Mornings chilly and hazy, days sometimes cloudy, some heavy showers, 17 days rain in 1831, 8 days in 1832, 7 in and 4-5th in 33, in 34, 3 and 3-4th, and in 1835 it rained 14 days, when more than 5 inches fell.	from 69° to 79°	8	2	4	108	66	42	from 26° 80″ to 27° 00″
November,—Mornings foggy with dews, air cold and bracing, little or no rain, sky clear, cloudless, 9 rainy days in 1831, and only 2 in 1832, partial showers in 1833, 7 days of heavy showers in 1834, when 3 and 3-5th inches fell ; 13 days of very partial showers in 1835, when 1½ inches fell.	from 66° to 77°	8	2	4	108	64	44	from 26° 89″ to 27 08″
December, — Weather very cold and chilly in the mornings and evenings with much dew, [illegible] rainy days in 1831,—5 in 32, and 1 in 34; none in 33, or 35.								from 27° 08″

Table of admissions from principal diseases in the 13th Dragoons, for twelve years, with a statement of the Thermometric range, during the corresponding periods.

1820

Quarter	Month	Average strength	Monthly range of Thermometer: Max.	Med.	Min.	Fevers: Ad.	Died.	Hepatitis: Ad.	Died.	Dysentery: Ad.	Died.	Rheumatism: Ad.	Died.	Cholera: Ad.	Died.	Pulmonic Disease: Ad.	Died.
1st Quarter or	January		78	77	76												
	February	701	85	73¼	62	47	0	13	2	56	6	18	0	18	5	2	0
	March		85	78	71												
2d do. or	April		86	79	72												
	May	713	85	76½	68	29	2	27	1	33	6	3	0	0	0	5	0
	June		80	73¼	67												
3d do. or	July		78	72½	67												
	August	718	76	72	68	22	1	27	2	32	3	6	0	2	0	0	0
	September		76	72½	69												
4th do. or	October		78	73½	69												
	November	672	75	70	65	31	0	23	1	35	4	3	0	2	0	2	0
	December		74	69	64												
Total		—	—		—	129	3	90	6	156	19	30	0	22	5	9	0

1821

Quarter	Month	Average strength	Monthly range of Thermometer: Max.	Med.	Min.	Fevers: Ad.	Died.	Hepatitis: Ad.	Died.	Dysentery: Ad.	Died.	Rheumatism: Ad.	Died.	Cholera: Ad.	Died.	Pulmonic Disease: Ad.	Died.
1st Quarter or	January		71	67½	64												
	February	664	80	74	68	25	0	23	2	19	1	2	0	2	0	9	2
	March		84	78	72												
2d do. or	April		89	80½	72												
	May	656	87	78½	70	39	4	16	2	25	3	3	0	10	0	10	0
	June		86	78	70												
3d do. or	July		80	74	68												
	August	640	78	73	68	31	2	13	0	20	4	10	0	18	0	8	0
	September		78	73	68												
4th do. or	October		76	72	68												
	November	639	75	71	67	17	0	25	1	20	1	5	0	3	0	3	0
	December		76	70½	65												
Total		—	—		—	112	6	77	5	84	9	20	0	33	0	30	2

1822

Quarter	Month	Average strength	Monthly range of Thermometer: Max.	Med.	Min.	Fevers: Ad.	Died.	Hepatitis: Ad.	Died.	Dysentery: Ad.	Died.	Rheumatism: Ad.	Died.	Cholera: Ad.	Died.	Pulmonic Disease: Ad.	Died.
1st Quarter or	January		75	68½	62												
	February	634	84	76	68	22	0	20	3	16	1	9	0	3	0	4	2
	March		89	80¼	72												
2d do. or	April		88	80½	73												
	May	626	86	78	70	20	0	16	2	38	2	4	0	6	0	2	2
	June		82	76	70												
3d do. or	July		78	73½	69												
	August	620	78	73	68	12	0	17	2	18	3	5	0	8	0	0	0
	September		78	73	68												
4th do. or	October		76	72	68												
	November	656	76	70	64	23	0	13	2	23	1	6	0	2	0	3	0
	December		72	68	64												
Total		—				77	0	66	8	95	7	24	0	19	0	9	4

Table Continued.

1823

	Average strength.	Monthly range of Themometer. Max.	Med.	Min.	Fevers. Ad.	Died.	Hepatitis. Ad.	Died.	Dysentery. Ad.	Died.	Rheumatism. Ad.	Died.	Cholera. Ad.	Died.	Pulmonic Disease. Ad.	Died.
1st Quarter or January....		78	70	62												
February...	650	80	71	62	22	0	34	1	22	2	6	0	2	0	2	0
March......		82	75	68												
2d do. or April.......		88	79	70												
May........	637	88	84	80	36	2	33	1	29	4	11	0	0	0	2	0
June.......		86	78½	71												
3d do. or July........		80	75	70												
August.....	652	80	74	68	35	0	11	1	26	1	6	0	3	0	5	0
September..		78	73	68												
4th do. or October....		81	75½	70												
November..	647	82	75	68	25	0	21	1	17	1	8	0	0	0	11	0
December..		79	72	65												
Total..	—	—	—	—	118	2	99	4	94	8	31	0	5	0	20	0

1824

	Average strength.	Monthly range of Thermometer. Max.	Med.	Min.	Fevers. Ad.	Died.	Hepatitis. Ad.	Died.	Dysentery. Ad.	Died.	Rheumatism. Ad.	Died.	Cholera. Ad.	Died.	Pulmonic Disease. Ad.	Died.
1st Quarter or January....		78	71	64												
February...	630	85	78	71	32	1	31	0	17	1	8	0	0	0	4	0
March......		86	78	72												
2d do. or April.......		87	80½	74												
May........	625	88	80	72	29	0	28	0	26	1	22	0	5	0	9	0
June.......		86	79	72												
3d do. or July........		84	78	72												
August.....	639	83	77½	72	22	0	40	5	37	2	15	0	5	1	0	0
September..		85	78¾	72												
4th do. or October....		81	75½	70												
November..	631	78	72	66	24	0	19	1	30	2	15	1	3	1	2	0
December..		79	70	61												
Total..	—	—	—	—	107	1	118	6	110	6	60	1	13	2	15	0

1825

	Average strength.	Monthly range of Thermometer. Max.	Med.	Min.	Fevers. Ad.	Died.	Hepatitis. Ad.	Died.	Dysentery. Ad.	Died.	Rheumatism. Ad.	Died.	Cholera. Ad.	Died.	Pulmonic Disease. Ad.	Died.
1st Quarter or January....		80	72	64												
February...	620	88	77½	67	22	1	26	0	24	0	20	0	1	0	7	0
March......		75	84	73												
2d do. or April.......		92	86	80												
May........	614	93	83½	74	31	0	18	0	21	1	21	0	4	0	7	0
June.......		85	78¾	72												
3d do. or July........		85	76½	68												
August.....	645	84	77	70	9	1	22	2	41	1	15	0	2	0	6	0
September..		84	77	70												
4th do. or October....		78	74	70												
November..	630	77	73	69	23	0	23	5	21	1	24	0	0	0	3	0
December..		78	71	64												
Total..	—	—	—	—	85	2	89	7	107	3	80	0	7	0	23	0

Table Continued.

		Average strength.	Monthly range of Thermometer. Max.	Med.	Min.	Monthly range of Barometer. Max.	Med.	Min.	Fevers. Ad.	Died.	Hepatitis. Ad.	Died.	Dysentery. Ad.	Died.	Rheumatism. Ad.	Died.	Cholera. Ad.	Died.	Pulmonic Disease. Ad.	Died.
		1830																		
1st Quarter or	January....		71	66½	62	0	0	0												
	February...	612	80	72½	65	0	0	0	23	1	17	0	20	4	9	0	0	0	5	0
	March......		84	77½	71	0	0	0												
2d do. or	April.......		87	80	73	0	0	0												
	May........	609	87	78½	70	26·97	26·91	26·85	41	1	26	1	37	1	12	0	5	1	4	1
	June.......		84	77½	70¼	26·95	26·95	26·96												
3d do. or	July........		79	74½	69½	26·97	26·95	26·93												
	August.....	664	77	72¾	68½	26·96	26·92	26·87	23	0	14	0	33	1	15	0	3	0	5	1
	September..		77½	72¾	68	26·95	26·91	26·87												
4th do. or	October....		79½	73¾	68	26·95	26·94	26·94												
	November..	660	79	73½	68	26·95	26·92	26·90	32	0	17	1	23	2	12	0	1	0	6	1
	December...		76	70½	65	26·95	26·94	26·94												
	Total..								119	2	74	2	113	8	48	0	9	1	20	3

Table Continued.

1831

	Average strength.	Monthly range of Thermometer. Max.	Med.	Min.	Monthly range of Barometer. Max.	Med.	Min.	Fevers. Ad.	Died.	Hepatitis. Ad.	Died.	Dysentery. Ad.	Died.	Rheumatism. Ad.	Died.	Cholera. Ad.	Died.	Pulmonic Disease. Ad.	Died.
Jaunary....		73½	68¾	64	27·10	27·10	27·10												
February...	658	83	75½	67½	27·10	27·10	27·10	24	0	24	0	22	0	11	0	2	1	19	1
March......		83	75¾	68½	27·10	27·10	27·10												
April.......		89	81½	74	27·10	27·08	27·00												
May.......	679	87	80½	74	27·10	27·01	26·95	53	0	37	1	51	0	5	0	5	1	8	1
June.......		85½	77½	69½	27·05	26.99	26·94												
July........		83	76	69	27·10	27·02	26·95												
August.....	678	80	74½	68½	27·10	27·02	25·95	20	0	26	1	38	0	7	0	2	0	5	0
September..		78	74¾	67½	27·12	26·52	25·92												
October....		78	71¾	65½	27·17	27·01	25·92												
November..	674	76½	70	63½	27·20	27 05	26·91	25	1	18	1	17	0	8	0	0	0	7	1
December..		74½	71½	68	27·36	27·23	27·10												
Total..								122	1	105	3	128	0	31	0	9	2	39	3

1832

	Average strength.	Monthly range of Thermometer. Max.	Med.	Min.	Monthly range of Barometer. Max.	Med.	Min.	Fevers. Ad.	Died.	Hepatitis. Ad.	Died.	Dysentery. Ad.	Died.	Rheumatism. Ad.	Died.	Cholera. Ad.	Died.	Pulmonic Disease. Ad.	Died.
Jaunary....		75	69½	64	27·30	27·16	27·08												
February...	670	79	72½	66	27·27	27·15	27·04	19	0	21	2	13	0	7	0	4	0	6	0
March......		86	78½	71	27·16	27·07	26·98												
April.......		88	80½	74	27·15	27·06	27·97												
May.......	685	90	81¼	73	27·12	27·03	26·94	32	0	32	1	15	6	13	0	0	0	10	0
June.......		86	78	70	27·06	26·96	26·86												
July........		81	74¼	68	27·04	26·93	26·83												
August.....	682	81	75½	70	27·08	26·99	26·90	18	1	11	1	18	1	1	0	1	0	8	0
September..		81½	75½	69	27·10	27.00	26·91												
October....		80½	74¾	69	27·16	27·04	26·93												
November..	678	81	74½	68	27·25	27·15	27·05	32	0	12	0	14	2	4	0	3	1	7	1
December..		81	74½	68	27·20	27·10	27·00												
Total..								101	1	72	4	60	3	25	0	8	1	31	1

Table Continued.

		1833. H. M. 13th Light Dragoons.																				1833. H. M. 39th Regiment Foot.												
		Average strength.	Monthly range of Thermometer.			Monthly range of Barometer.			Fevers.		Hepatitis.		Dysentery.		Rheumatism.		Cholera.		Pulmonic Disease.			Average strength.	Fevers.		Hepatitis.		Dysentery.		Rheumatism.		Cholera.		Pulmonic Disease.	
			Max.	Med.	Min.	Max.	Med.	Min.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.			Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.
1st Quarter or	January....		80	73½	67	27·03	26·98	26·94																										
	February...	668	86	77¼	69	26·97	26·91	26·86	32	0	12	0	18	0	11	0	58	4	111	0		652	32	0	7	0	50	0						
	March......		90	82	74	26·98	26·91	26·84																										
2d do. or	April.......		91	83¼	76	26·94	26·88	26·83																										
	May........	659	91	82½	74	26·88	26·78	26·69	65	1	11	0	63	0	6	0	135	10	7	0		728	77	1	14	0	82	1						
	June.......		88	79	70	26·85	26·80	26·75																										
3d do. or	July........		86	78	70	26·81	26·78	26·73																										
	August.....	649	83	76½	70	26·90	26·81	26·73	41	0	16	2	41	3	6	0	4	1	15	1		718	38	0	19	1	44	1						
	September..		82	76	70	26·82	26·77	26·72																										
4th do. or	October.....		80	75½	71	26·92	26·83	26·74																										
	November..	642	77	73	69	26·97	26·91	26·85	26	0	16	0	30	1	6	0	5	0	7	0		713	49	0	7	0	36	1						
	December..		78	73½	69	26·91	26·87	26·81																										
	Total..								161	1	55	2	155	4	29	0	202	15	140	1			196	1	47	1	212	6	—	—	—	—	—	—

Table Continued.

1834. H. M. 13th Regiment of Light Dragoons.

	Average strength.	Monthly range of Thermometer. Max.	Med.	Min.	Monthly range of Barometer. Max.	Med.	Min.	Fevers. Ad.	Died.	Hepatitis. Ad.	Died.	Dysentery. Ad.	Died.	Rheumatism Ad.	Died.	Cholera. Ad.	Died.	Pulmonic Disease. Ad.	Died.
1st Quarter or January....		79	72½	66	26·95	26·89	26·84												
February...	629	94	75½	67	26·95	26·89	26·84	25	1	10	0	18	0	4	0	5	0	12	0
March......		89	80½	72	26·95	26·89	26·83												
2d do. or April.......		79	75	71	26·93	26·86	26·79												
May........	627	92	83½	75	26·95	26·87	26·80	35	0	18	2	31	0	5	0	14	0	8	0
June........		84	78	72	26·83	26·78	26·74												
3d do. or July.......		82	75½	69	26·78	26·71	26·65												
August.....	628	81	75	69	26·85	26·77	26·70	20	0	16	1	40	2	13	0	4	0	15	0
September..		79	74	69	26·85	26·79	26·74												
4th do. or October....		80	77	74	26·86	26·70	26·71												
November...	623	78	71½	65	27·00	26·94	26·88	20	1	16	1	11	0	5	0	1	0	5	0
December...		78	71	64	26·99	26·94	26·90												
Total..								100	2	60	4	100	2	27	0	24	0	40	0

1834. H. M. 39th Regiment Foot.

	Average strength.	Fevers. Ad.	Died.	Hepatitis. Ad.	Died.	Dysentery. Ad.	Died.	Rheumatism. Ad.	Died.	Cholera. Ad.	Died.	Pulmonic Disease. Ad.	Died.
1st Quarter or January, February, March	714	29	0	14	1	13	0						
2d do. or April, May, June	753	76	0	18	0	86	6						
3d do. or July, August, September	778	7	0	9	2	25	1						
4th do. or October, November, December	791	47	1	11	0	23	2						
Total..		159	1	52	3	147	9						

Table Continued.

		Humidity.		1835. H. M. 13th Regiment Light Dragoons.																					1835. H. M. 39th Regiment Foot.												
				Average strength.	Monthly range of Thermometer.			Monthly range of Barometer.			Fevers.		Hepatitis.		Dysentery.		Rheumatism.		Cholera.		Pulmonic Disease.		Average strength.	Fevers.		Hepatitis.		Dysentery.		Rheumatism.		Cholera.		Pulmonic Disease.	
		Inches.	Hunds.		Max.	Med.	Min.	Max.	Med.	Min.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.		Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.	Ad.	Died.
1st Quarter or	January...	0	0		78	70	62	27·10	27·05	27·00																									
	February...	0	0	636	84	75½	67	27·11	26·99	26·87	21	0	9	1	22	1	7	0	0	0	9	0	783	57	4	17	1	22	2						
	March......	0	35		87	80	73	27·00	26·94	26·85																									
2d do. or	April.......	4	16		88	79½	71	27·00	26·91	26·82																									
	May........	5	89	646	86	82½	79	26·91	26·83	26·75	28	0	15	0	27	0	10	0	3	0	3	0	770	48	1	23	2	23	5						
	June........	3	24		81	75	69	26·86	26·79	26·73																									
3d do. or	July.......	4	88		81	74½	68	26·82	26·77	26·72																									
	August.....	13	13	646	78	72½	67	26·68	26·68	26·68	19	0	11	0	5	0	11	0	0	0	7	0	766	30	0	8	2	22	0						
	September..	5	97		78	73½	69	26·98	26·85	26·72																									
4th do. or	October....	5	10		78	74	70	26·91	26·80	26·70																									
	November..	1	50	639	76	70½	65	27·01	26·89	26·78	21	0	10	0	9	0	10	0	3	0	13	0	770	24	0	11	0	11	0						
	December..	0	0		75	68½	62	27·00	26·92	26·81																									
	Total..	44	02								89	0	45	1	63	1	38	0	6	0	32	0		159	5	59	5	78	7						

Remarks on the foregoing tables.

From these tables it appears, that April and May are generally the hottest months, and that the hottest year was 1825, when the average maximum of the Thermometer was in April, 92, and in May 93. It also shows that the coolest months are December and January, and that the lowest temperature 61,° occurred in December 1824. The rànge of the Barometer has been given for 1830, 31, 32, 33, 34 and 35 ; and that of the Pluviometer for 1835 only, when 44 inches of rain fell. Comparing the 5 years ending in 1835, it appears that the average mean temperature within doors has been 75° ; the average lowest range being 69¼°, and the highest 81½°, the greatest variation in the 24 hours 10¼°, the least range 4°, and average 7°. The average mean temperature in the open air has been 83°, highest average range 99½, lowest average 67°.

The table also shows, that fevers were most numerous in 1820 and 1833 ; hepatitis in 1824 and 1831 ; dysentery in 1820 and 1833 ; rheumatism in 1824 and 1825 ; and pulmonic diseases in 1833 and 1834. It is a common observation of those who have resided many years at Bangalore, that the climate has altered much, and that it is hotter than formerly, and that less rain falls. In the year 1823, some of the compounds produced four crops of hay, shewing that much rain must have fallen. In 1822 there was an extraordinary fall of ice, about 12 miles north west of Bangalore, and some of the hail stones were so large, that numbers of cattle were killed by them.

Diseases of horses.

Fever occasionally prevails amongst the cavalry horses at Bangalore, and the disease called "gripes" carries off numbers very suddenly, during the hot season. Another disease, the pathology of which is not well understood, occasionally occurs, namely enlargement of the tail, which becomes covered with large black tubercles constantly increasing in size and number, the tail becomes enormously enlarged, and as the disease extends the animal pines and dies. It appears to be of a *melanotic* character, and on dissection, a black secretion has been found likewise in the

lungs, liver, kidneys, and in other viscera, and in one case a melanotic spot was discovered in the heart.

In the year 1834, during the hot months, an inflammatory disease appeared amongst the horses of the 13th Dragoons, which carried off such numbers, that the regiment was removed to a distance of about five miles from the cantonment, and after remaining there for about fifteen days, it disappeared. The symptoms were as follows, much uneasiness indicated by the animal constantly lying down and rolling, pulse weak and indistinct, ears and limbs cold, cold sweats over the body, and mouth covered with a brownish crust, emitting a disagreeable odour. The horses lingered from six to fourteen days; in some cases the bowels were relaxed in others costive, the evacuations were generally fluid and as black as charcoal, occasionally mixed with mucous or a sort of membranous secretion, and attended with tenesmus. The urine was high coloured, passed often, and with difficulty; three quarts of stones were raked out of the rectum in one bad case which recovered, and in some others a few stones were passed. It is affirmed by persons in attendance on the horses, that stones were frequently passed the previous year, when a similar epidemic prevailed. On dissection, inflammation and ulceration of the mucous coat of the stomach, resembling the effect of an acrid poison were found, with a similar state of the mucous membrane of the colon; large quantities of gravel and stones of a black colour, were contained in the intestinal canal; the lungs were occasionally diseased and full of matter. It appears to be undecided, whether the presence of the stones occasioned inflammation, or whether they were instinctively swallowed by the animal, as a remedial agent. At the particular seasons of the year when the disease raged, the grass was dry and full of indigestible roots, and the water in the Ulsoor tank, muddy which would naturally excite disease in the digestive organs. It seems probable that the animal, feeling an oppression after food and difficulty of digestion, takes into its stomach all the small pieces of stone and mud within reach, and that these

acting as foreign and unnatural agents, excite inflammation. One of the veterinary surgeons was of opinion, that the stones were taken in by the horse to relieve a specific inflammation of the stomach; another opinion was, that there existed either some acid generated in the stomach, or such a want of tone in the digestive organs, as to induce the horse to swallow them to neutralize the acid or increase the powers of digestion, as is done by persons suffering from chlorosis and cachexia africana, or *mal d'estomac*. A peculiarity of the disease, was its not attacking either the horses of the native cavalry, or artillery; the horses of the 13th dragoons were watered at the west end of the large tank near the entrance of the drains, and at the dirtiest and most muddy part; which has also been assigned as a very probable cause of the disease, for on removing to camp where the water was pure, it speedily disappeared.

In 1835, an epidemic broke out amongst the poultry at Bangalore, and carried off vast numbers; the most healthy birds being often suddenly attacked; it was attended with watery purging, and spasms, resembling cholera; male birds especially, suffered from the disease.

General character of diseases at Bangalore.

The diseases of Bangalore in general require more active measures in the early stages, than in less bracing climates. The climate is particularly congenial to the European constitution; sores quickly take on a healthy action, and convalescence from acute diseases is rapid, often in a remarkable degree; and the protracted convalescence and low chronic state of disease, seen in other parts of India, are seldom met with at this station.

Prevalent diseases.

The prevalent diseases in Europeans are *Fever*, *Dysentery* and *Hepatitis*.

Fever.

Fever is very frequent, and, whatever type it assumes, is generally of a mild form, but few deaths being occasioned by it. In 12 years the proportion of deaths to

sick treated, in the 13th dragoons, has been 1 in 62. There are however several parts of the Mysore country, where fevers are endemic, as for example the droogs or hill forts; and all localities may be suspected as being more or less unhealthy, which are either much elevated, or situated below the ordinary level, as Serah, Seringapatam, and Mysore in the valley of the same name, extending from Seringapatam in a northerly direction, nearly as far as Chittledroog, and north easterly beyond Serah. The fevers of these places are not only of a dangerous character, but they are apt to return periodically for many years.

The average annual number of admissions in the 13th dragoons, for 12 years has been 110, and the annual average number of deaths $1\frac{3}{4}$. The cases were most numerous in 1820, and 1833. In 12 years, 21 died, the proportion of deaths to sick treated, being 1 in 62. The common type of fever is the ephemeral, remittents are however of frequent occurrence, and often of a dangerous character, requiring in addition to the ordinary treatment, the free exhibition of mercury.

In 1820, and 21 the two first years after the arrival of the dragoons in India, remittent fever was more prevalent than at any subsequent period, and the cases were particularly severe, resembling in many respects the yellow fever of the West Indies. The symptoms observed in these cases, were a jaundiced appearance of the surface of the body, attended with partial cold sweats emitting a disagreeable odour, constant vomiting, extreme restlessness, pain in the temples, forehead and orbits, with uneasiness and pain in epigastrium. This type of fever has not been endemic in Bangalore since the above period, and many of the fatal cases since met with, were contracted out of the cantonment. With regard to fever the following extract from a report by one of the medical officers is interesting. "Four men sent in ill health from St Thomas' mount, and five absent from Bangalore on leave, remained for two days at the village of Oosscottah, at a

time when fever prevailed there very generally; soon after their arrival at Bangalore, they were all attacked and one died; the fever was an irregular bilious intermittent, attended with severe headach and irritability of the stomach, great prostration of strength, a dull heavy aspect and yellow suffusion of eyes, and over the surface of the body, much nervous tremor and anxiety; in two instances the type became remittent. In the treatment it was found that quinine had not much power over the disease, but it yielded at once on ptyalism being established.

Dysentery. Dysentery is occasionally very severe, and next to fever, the most prevalent disease. The annual average number of admissions for the 12 years, in the 13th dragoons, has been 105, and the annual average number of deaths $5\frac{3}{4}$. It was most frequent in the years 1820, and 1833. The total deaths were 70, or 1 in 18 of the sick treated. It does not frequently occur in an acute form, but when it does, it runs its course rapidly. The most active treatment is at once required, and on the mouth becoming affected by mercury, the symptoms usually give way, the return to health being rapid, though a chronic form of diarrhœa occasionally remains for some time, which is benefitted by a change to the Carnatic. Out of 32 dissections, abscess in the liver was found to exist in 11 cases.

Hepatitis. Hepatitis has been considered endemic by all who have written on the climate or diseases of Bangalore. It may be observed, that almost every climate has some peculiar tendency to excite, or call into morbid action, the functions of particular organs, in preference to others; and, that when the exciting causes of disease act upon the constitution, the organ so predisposed chiefly suffers. In India this is very frequently the liver, and why acute inflammation of this viscus should be so frequent here and not in West Indies, is a subject worthy of consideration, the attempt to explain which, may throw some light upon the disease, particularly as regards acute inflammation terminat-

ing in abscess ; whilst the chronic form of the disease, is found to prevail more or less in almost all other tropical countries. The West Indies consisting of groups of small islands surrounded by the ocean, enjoy an equability of temperature, unknown on continents ; in them the vicissitudes of climate are but trifling, day and night being equally oppressive, but on the continent of India, the changes are great, and to one who has sojourned in the other hemisphere, very striking. A hot and oppressive day in India is frequently preceded by a cold wind in the morning, or followed by chilly evenings ; this is peculiarly the case with the Bangalore or Mysore climate, and to it may be attributed the frequency of acute hepatitis. That extreme heat cannot be the sole cause, is proved by the fact, that the medium temperature of the island of Jamaica, which according to observations for an extended period, is found to be 75°, is the same as that of Bangalore. The reports published by Mr. Annesly shew that in the year 1825, only 36 cases of hepatitis were admitted into the regimental hospitals in Jamaica, out of a force of 2,682 men, whereas 89 cases were admitted into the regimental hospital of the 13th dragoons alone, stationed at Bangalore that year ; the regiment being under 700 strong. In Jamaica, in 1824, out of a force of more than five regiments, there were 72 admissions of hepatitis ; in Bangalore in the same year, in one regiment, there were 118. The cases in Jamaica also, it is believed, followed attacks of intermittent and remittent fevers, and were not cases of idiopathic hepatitis. It would appear therefore that hepatic disease in India is not attributable to heat alone, but to the vicissitudes of temperature. In Bermuda, where the heat is sometimes very great, hepatitis is scarcely known amongst the inhabitants ; and the 74th regiment, during a period of more than 18 months residence there, had scarcely any admissions from that complaint. Dr. James Clark mentions, that the mean annual temperature of the West India islands near the level of the sea, is about 80°, and that during the six months which include the winter season, the temperature is only 2° lower. Contrasted with this, the daily maximum range in the open air

at Bangalore, for 5 years is here shewn. In 1831, the greatest differenee was 50°, in 1832 $41\frac{1}{3}$°, in 1833, $39\frac{2}{3}$°, in 1834, $41\frac{1}{2}$° and in 1835, 41°, the average was therefore 42°.

The sun in the West Indies moreover has not the same insufferable feeling of heat, as in the East ; and Europeans eonstantly expose themselves to it, generally without any bad effeet.—In the West Indies the sun is also in a eertain degree exhilirating, the spirits become exeited, the mind inclined to aetivity, and too often to dissipation. In the East, the sun seems particularly to affect the braiu, a sensation of heaviness and weight being experieneed, and the system becomes prostrated by exposure to its rays. The European troops who are almost the only sufferers from hepatitis, subjeet themselves to frequent attaeks, as well by careless and dissipated habits, as by exposure to the night air when on duty. It must be borne in mind, that generally at Bangalore, throughout the year, a cold and rather strong wind prevails, and the soldier after being buttoned up, and exposed to the heat of the sun, on entering his barrack room, immediately throws off his jaeket to enjoy the cold breeze, whilst in a state of profuse perspiration whieh beeoming suddenly eheeked, the mass of blood is direeted to the liver or large intestines, thereby exeiting inflammation in these organs.

Hepatitis, is by no means so eommon amongst those who avoid exposure, particularly at night, and women and ehildren very seldom suffer from it. The annual average number of admissions for 12 years, in the 13th dragoons, has been 79, and the annual average number of deaths $4\frac{1}{3}$. The eases were most numerous in 1824, when the *greatest variation* of temperature oeeurred. In 12 years, 52 men died of the disease, the proportion of deaths to the number treated, being 1 in $18\frac{1}{3}$. The treatment in the aeute form, has been at first, copious bleeding to the amount of from 16 to 30 ounces, aecording to the strength, and constitution of the patient ; and repeated a seeond, or even a third time if requisite though to a less extent ; after whieh leeehes and

blisters have been applied, and repeated till pain on pressure was removed. One or two scruple doses of calomel were usually given at the commencement, followed by a purgative, and repeated in smaller doses with antimonial powder, till the mouth became affected, when the disease was observed generally to abate. Convalescence from acute hepatitis has usually been rapid, however active the treatment may have been.

Out of 34 dissections, in only *one* instance was the *left* lobe of the liver the seat of abscess, without the *right* being also implicated; this occurred in a scrophulous patient, in whom there was found an almost cartilaginous state of the pancreas, and also disease of the lower maxillary bone. In the whole, abscess was found in both lobes, in 5 cases; in 28, the abscess was confined to the upper surface of the right lobe, which was generally adhering to the diaphragm. Two cases only are recorded of abscess occupying the *lower* portion of this lobe. Three out of the 34 cases, occurred in scrofulous patients, in each of whom either the spleen or pancreas was found to be indurated.

A comparative statement of the extent to which hepatitis prevailed in two European regiments at this station, viz. the 13th dragoons, and H. M. 39th is here given.

The 13th in 1833, had $8\frac{1}{3}$ per cent. of admissions, of hepatitis, upon the effective strength, the 39th $6\frac{2}{3}$; in the 13th, there were 3 per cent. of deaths, upon the admission—in the 39th, 2 per cent. The 13th, in 1834, had $9\frac{1}{2}$ per cent. of admissions, upon the effective strength, the 39th $6\frac{3}{4}$; in the 13th, $6\frac{2}{3}$ per cent. of deaths upon the admissions occurred, and in the 39th, $3\frac{7}{8}$ per cent. The 13th, in 1835, had 7 per cent. of admissions, upon the effective strength, the 39th, $7\frac{1}{3}$; in the 13th there were $2\frac{1}{4}$ per cent. of deaths, and in the 39th, $8\frac{1}{2}$ per cent.

The disease was thus in the years 1834 and 1835, more prevalent in the dragoons, which had been nearly 18 years in India, than in the 39th, only about 3 years in the country;

but in 1835, the admissions and deaths in the 39th preponderated, so that in their third year of Indian service, they had about one per cent more of admissions, and 6½ per cent more deaths, than in the first.

In a dragoon regiment there must always be a greater number of admissions than in an infantry corps, from the more active nature of the duties the men have to perform, the infantry soldier has perhaps only a parade to attend, for a short time in the morning, whilst the dragoon has horse drill perhaps twice a week, and also the additional duty cleaning and attending to his horse.

Chronic hepatitis is not a very common affection, for acute inflammation of the liver runs its course very rapidly, and terminates soon, either in recovery or death.

Rheumatism. Rheumatism is very frequent, particularly in old soldiers, the cases are sometimes tedious, and resist every mode of treatment.

Pulmonary disease. During a service of 18 years in India, the 13th dragoons lost only 20 men from disease of the lungs, and in 12 years at this station, the annual average number of admissions from pulmonary disease, has been 34. Out of the 20 deaths, 6 were from phthisis ; an epidemic catarrhal visitation which occurred in 1833, has been previously alluded to.

The admissions and deaths from the three principal diseases, viz. fever, dysentery and hepatitis, at Arcot, Arnee, and at Bangalore during the years 1827, 28, 30 and 31, are shown in the following table.

General tables of diseases similar to those for the preceding divisions of the army, with a few observations, are given at the end of the report.

Years.	Strength.	Total admissions.	Total deaths.	Per centage. Admissions to effective strength.	Per centage. Deaths to the admissions.	Stations, Arcot and Arnee.	Admitted.	Died.	Per centage. Admissions upon the effective strength.	Per centage. Deaths upon the admissions.	Remarks.
1827	586	1232	40	210¼	3¼	Fever.. …	208	7	35½	3¼	
						Dysentery	163	15	27¾	9¼	
						Hepatitis.	144	10	26⅝	6⅞	
1828	528	1277	41	241¾	3⅙	Fever… ..	169	2	32	1¼	
						Dysentery	136	7	25¾	5⅛	
						Hepatitis.	85	4	16⅛	4¾	
						(total)		45			

Years.	Strength.	Total admissions.	Total deaths.	Per centage of Admissions to effective strength.	Per centage of Deaths to admissions.	Station, Bangalore.	Admitted.	Died.	Per centage of Admissions upon the effective strength.	Per centage of Deaths upon the admissions.	Remarks.
1830	635	919	19	141⅔	2⅛	Fever. ….	119	2	18⅔	1¼	
						Dysentery	113	8	17¾	7	
						Hepatitis.	74	2	11⅔	2¾	
1831	672	1012	12	150⅔	1⅛	Fever…..	122	1	18¼	¾	
						Dysentery	128	0	19	0	
						Hepatitis.	105	3	15½	2¾	
						(total)		16			

HURRYHUR.

Situation of the cantonment.

The cantonment of Hurryhur, is situated on a widely extended plain, about 1,500 yards from the right bank of the Toombuddra river, at an elevation, according to Hamilton, of about 1,900 feet above the level of the sea, which is distant 90 miles at the nearest point on the Malabar coast. It lies in latitude 14° 26″ north, and longitude 75° 56″ east; being 186 miles from Bangalore, 395 from Madras, and 400 from Bombay.

The cantonment is somewhat elevated above the surrounding plain, having a gentle inclination towards the river. The distance at which it lies from the river is felt to be inconvenient by the sepoys and their families; but this disadvantage is counterbalanced, by their being so far removed from the influence of its noxious exhalations. The water of the river is very pure, but occasionally slightly turbid, or whitish, apparently from an impregnation of sulphate of lime; it is generally preferred to that from wells. Water in wells is obtained at a depth of about 40 feet from the surface, the supply however is very uncertain especially in the officers lines, owing to their greater elevation; but in the neighbourhood of the regimental lines, barracks, and hospital, well water has hitherto been abundant.

There are no marshy lands in the vicinity of the cantonment or of the river, the banks being sufficiently high to prevent their being overflowed during the rains, and a sandy deposit is left on its bed, in the dry season. The fish found in this river, but more especially the cat fish, sometimes prove very deleterious, and much precaution is at all times requisite in the use of it.

Surrounding Country.

The country is clear and open, for from eight to sixteen miles round, the nearest jungle being in a south westerly direction.

Soil. In the immediate vicinity, the soil is either black cotton earth, or a red sand irregularly distributed, that on which the cantonment stands, is sandy or gravelly.

Climate. The climate is pleasantly cool for the greater part of the year, though hot for about six weeks or two months in May and June, previous to the setting in of the south west monsoon, during which and also in the north east monsoon, strong winds prevail, more rain falling in the latter, than in the former season. It has been generally remarked, that during the south west monsoon, the wind is to the feelings not unlike a sea breeze, from its cooling and invigorating effects; it usually sets in about 3 P. M. and continues to blow till about 7 P. M.; it is however believed to occasion rheumatic complaints, especially of a chronic nature, in those exposed to its influence, if precautionary measures as regards clothing, are not observed.

The site, construction and elevation of houses, are also objects requiring much attention in this climate, to guard against the effects of this wind.

A few detached hills are to be found at a distance of about 7 or 8 miles, in a northerly direction, but they appear to exert no other influence on the climate, than perhaps attracting clouds at the commencement and termination of the monsoons, and diverting from the station, rain which would otherwise fall there. These hills are barren, bleak, and difficult of access, they therefore hold out no advantages in a sanatory point of view, as a place of resort for invalids.

For an account of the vegetable productions, see the report of the district of Nuggur.

Amongst the minerals the principal are iron, and lime.

Manufactures. Cumblies and coarse cloths are the only articles manufactured at Hurryhur.

Population. The population, is widely dispersed in small villages, the houses being built of mud and thatched. In the talook of Hurryhur there are five divisions, containing 52 villages, and 2,552 houses, with a population in 1837, of 3,630 males, upwards of 6 years of age; 1,892 males under six; 3,344 females upwards of 12 years of age, and 1,354 under 12. In all 10,220 souls.

The poor have a squalid and sickly appearance, although there are no indications of extreme poverty visible, the necessaries of life being usually cheap and abundant.

Prevailing diseases. Fevers, cutaneous diseases, rheumatism especially during the westerly monsoon, and painful rheumatic hemicrania in the cold season, are the most prevalent diseases amongst the natives. Cholera occurred in 1833 and 1840, but not to any great extent, see table. Jaundice and dropsy are observed occasionally as the sequelæ of protracted intermittents. Ulcers of obstinate character are very common, dependant it would seem on poverty, innutritious diet, and want of cleanliness and comfort. The mortality from small pox, which usually prevailed in the autumn, has greatly diminished since the introduction of vaccination. The natives though they do not object to be vaccinated, do not however voluntarily present themselves for that purpose.

Neighbouring villages, unhealthiness of. In the villages situated near the banks of some of the large tanks in the neighbourhood, the inhabitants are subject to agues, followed by organic enlargement of the spleen, and dropsical accumulations; and from the failure of the rain of late years, the beds of tanks have been much encroached upon for cultivation, but being at a distance from Hurryhur they do not affect the health of the station, which is remarkably free from fogs, dews, and miasmata.

Public buildings. The place of arms is situated near the sepoys lines, towards the south west corner of the parade ground, close to which are two solitary cells, both well ventilated; on

the north side of the parade, are the powder magazine and the regimental school house.

The sepoys lines run east and west, and are considered to be eligibly situated, they present a gradual descent towards the river.

Hospital. The hospital, which is situated in rear of the sepoys lines, was erected in 1828, it faces due east and west, is a commodious and substantial building, and consists of one long ward, 130 feet by 18, capable of containing the average sick of two native corps. It is elevated about eighteen inches from the ground, has seven venetianed doors on each side, and one at each end, with three ventilators in the roof: at each angle is a convenient room for the dispensary, medical and commissariat supplies, and a bath room, the latter being occupied occasionally by patients requiring restraint, or separation.—Detached from the hospital in the rear are the cookroom and privy, all in good repair.

In conclusion it may be stated, that the climate of Hurryhur has hitherto been favourable to the health of the troops stationed there; fevers especially of the intermittent type and rheumatism being the most prevalent diseases, as will be seen by the following table.

Table exhibiting the number of admissions into hospital, and death amongst the native troops stationed at Hurryhur, from 1832 *to* 1841 *inclusive.*

CLASSES.	DISEASES.	From 1832 to 1841 inclusive. Aggregate strength 8,500. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Admissions and Deaths from each class of Disease. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Total admissions from each class.	Total deaths from each class.	Per centage of sick to strength.	Per centage of deaths to sick treated.
Fevers..	Febris ephemera	480	2	288	0								
	,, intermittent quotid......	456	6	356	4	1137	10	687	10	1824	20	21 ·458	1 ·09
	,, tertiana....	37	0	16	0								
	,, remittens..	30	1	17	2								
	,, com. cont..	134	1	10	4								
	Cholera........	25	13	35	11	25	13	35	11	60	24	0 ·705	40 ·00
Diseases of the abdominal viscera.	Diarrhœa......	62	3	46	1								
	Dysenteria acuta et chronica.	36	1	56	7								
	Obstipatio......	31	0	12	0	175	5	143	9	318	14	3 ·741	4 ·40
	Dyspepsia......	38	1	23	0								
	Hœmorrhois....	7	0	4	0								
	Hepatitis.......	1	0	2	1								
Diseases of the lungs.	Catarrhus......	123	2	89	2								
	Asthma........	4	1	13	4								
	Phthisis pulmonalis..........	5	3	1	1	137	10	107	7	244	17	2 ·870	6 ·9
	Pneumonia.....	2	1	0	0								
	Dyspnœa.......	3	3	4	0								
Diseases of the brain.	Apoplexia.......	2	2	3	0								
	Epilepsia.......	2	0	4	0								
	Paralysis.......	2	0	1	0	13	4	19	2	32	6	0 ·376	18 ·7
	Amentia........	1	0	4	0								
	Mania.........	5	1	6	1								
	Hydrophobia...	1	1	1	1								
Eruptive Fevers.	Variola.........	9	0	3	2								
	Varicella.......	28	0	3	0	43	0	10	2	53	2	0 ·623	3 ·7
	Rubeola........	2	0	4	0								
	Erysipelas......	4	0	0	0								
Dropsies.	Anasarca.......	1	0	7	3	3	0	9	3	12	3	0 ·141	25 ·0
	Ascites.........	2	0	2	0								
Rheumatic affections.	Rheumatismus acutus et chronicus........	235	0	202	3	235	0	202	3	437	3	5 ·141	6 ·8
Venereal affections.	Syphilis primitiva..........	56	1	38	0								
	,, consecutiva	5	0	3	0								
	Gonorrhœa.....	48	0	28	0	131	1	87	0	218	1	2 ·564	0 ·4
	Hernia humoralis............	22	0	16	0								
	Strictura urethræ..........	0	0	2	0								
Specific diseases.	Atrophia.......	2	2	0	0								
	Beriberi........	0	0	1	1								
	Dracunculus....	11	0	7	0	18	2	14	1	32	3	0 ·376	9 ·3
	Lepra..........	0	0	1	0								
	Scorbutus......	2	0	1	0								
	Scrophula......	3	0	4	0								
Diseases of the eye.	Morbi oculorum.	68	0	100	0	68	0	100	0	168	0	1 ·976	0· 0
Do. skin.	,, cutis......	111	0	239	0	111	0	239	0	350	0	4 ·117	0· 0
	Other diseases..	687	4	585	6	687	4	585	6	*1272	10	14 ·964	0 ·7
	Total....	2783	49	2237	54	2783	49	2237	54	5020	103	59 ·059	2 ·0

NOTE.—Percentage of deaths to strength 1·211. * Including Phlogosis.. 499 1 Do. do. Ulcus 19

FRENCH ROCKS.

Situation. The French Rocks, a station for a Native corps, is situated seven miles north west of Seringapatam, above which it is elevated about 300 feet, and about 2,300 above the level of the sea. It covers a space of ground of about half a mile square; lies in north lat: 12 39, and east long: 76 50. It is bounded by two ranges of hills, rising at some little distance to the east and north-west of the station; that to the eastward running in a northerly direction, and the other taking a north-west course. The Cantonment itself is on a gently rising piece of ground, and is in consequence well drained. The general appearance of the country is hilly, rocky, and barren; and it is intersected by numerous deep ravines.

Soil. The soil is gravelly, except a few occasional patches of light red loam, where a little dry grain is cultivated, such as raggy, cholum and coulty.

The rocks and hills, consist chiefly of grey and black granite; but green stone, felspar, iron stone, and mica, are also found. There is no wet cultivation in the immediate neighbourhood of the station, except to a very small extent under the bund of a tank, which is formed beneath a high rock to the right of the cantonment; there are very few trees about the place, and these are for the most part stunted banyans.

Water. Water is procured chiefly from a tank, which from the rocky nature of its bottom and great depth, affords an abundant supply throughout the year; there are besides several springs, the water in which is good, and free from impurities.

There are no jungles, marshes, pools of stagnant water or swampy ground, near the place.

Roads. A line of communication exists with Seringapatam and Mysore, but the road is much out of repair.

Climate. A humid atmosphere, and heavy dews prevail more or less throughout the whole year, but more particularly during the months of January, February and March, when fogs also occur. The weather becomes warm from the middle of February, to the setting in of the south west monsoon, which happens about the middle of June, though the heat bears no comparison to that at Seringapatam. During the above period the thermometer seldom reaches above 85°, in the middle of the day; and the nights and mornings are always cool. The periodical rains usually cease about the middle of September, but the north-east monsoon is also sometimes attended with heavy rains, when the weather becomes cool and pleasant; and in the months of December and January it is cold, the thermometer not rising above 72° at midday, and falling as low as 50°, in the open air, at sun rise.

The 19th Regiment N. I. which arrived at the station in Diseases. the month of April in 1834, suffered from acute rheumatism, and fever of the continued type; this may be accounted for from the men having just come off a long march, and being new to the climate, which was colder than that of the Carnatic from whence they had lately arrived—the huts were in bad repair, and many of them without roofs, the men being consequently exposed to the cold damp night air; when however the sepoys became accustomed to the climate, were better housed, and more warmly clothed, these complaints became much less frequent.

Intermittent fever chiefly of the quotidian type, prevailed to some extent during the months of October and November in the same year, attacking not only the sepoys, but the followers of all descriptions, and was supposed to have been occasioned by some noxious quality in the atmosphere brought from a distance, as the cantonment from its elevated position, was apparently free from the ordinary supposed causes of fever, the soil being dry and there being no under ground

moisture, decaying vegetation, swamps, or stagnant pools of water. This fever continued to prevail till the end of February in the following year, and was very fatal in some parts of the adjacent country. It may be said to be the principal endemic,—see table.

Barrack & hospital. The only public buildings are the place of arms, the hospital, a store room and the sergeants' quarters.

The place of arms is in the centre of the cantonment, facing the south, the ground in front of which forms the parade; a few paces in the rear is the regimental store room, and 200 yards further back stands the hospital, which is a substantial tiled building, fronting the south; it is raised about two feet from the ground, and consists of one ward measuring 130 feet by 18, with a verandah in front and rear, of 8 feet in breadth; each end is enclosed forming four small rooms, one the dispensary, another a bath room, a third is allotted for hospital stores, and the fourth for the use of the assistant apothecary. The height of the wall is 12 feet, it has a stone flooring, and is capable of accommodating sixty patients; the ward is well ventilated having seven half venetian doors, on each face, and one at each end. The verandah rooms measure 14 feet by 8, each having a door, and 3 windows. The building is in good repair, and is surrounded by a brick wall seven feet high. There are 40 cots for the use of the sick, the frames of which are of wood, with taped bottoms, each measuring six feet by three, and having the usual supply of bedding. The cook room is in the eastern corner of the enclosure, has a stone flooring, and measures 15 feet by 8. The necessary in the western corner, is of the same dimensions, having two entrances, with a curtain wall in front. No disease has ever been met with, attributable to the locality of the hospital.

Officers houses. The officers dwellings are irregularly disposed on either side of the public buildings; the compounds are small, and the houses themselves very indifferent; they are

built of sun burnt bricks, and are mostly tiled, but some are thatched.

The roads in the cantonment are bad, and irregularly laid out owing to the inequality of the ground. The sepoys lines are situated in the rear of the hospital, and separated from the other parts of the cantonment by a road. The bazaar occupies the central street of the lines, the streets being broad and clean, and the huts comfortable and in good repair.

Bazaar.

The bazaar affords every necessary of life, supplies of unexceptionable quality being procured in abundance from Mysore and Seringapatam.

Village.

There is a small village called Errode, contiguous to the sepoys lines on the eastern side, consisting of between 30 and 40 huts, and containing a population of about 150 people, chiefly cultivators. There are only two other villages in the immediate neighbourhood of the French Rocks, these are situated pretty close together, and about half a mile in its front, they contain merely a few mud huts, and not more than a dozen families, who are also cultivators.

Concluding observation.

From what has been above stated, it will be seen that the French Rocks possess many advantages as a military station, both as regards the health of European and native troops; and from the statements of the medical officers who have been stationed there, the sources of malarious disease as compared with other parts of the Mysore country do not exist to any great extent in its vicinity. The European officers have enjoyed excellent health at this station hitherto.

Table exhibiting the number of admissions into Hospital, and deaths amongst the native troops stationed at the French Rocks, for nine years ending 1841.

CLASSES	DISEASES.	For nine years. Aggregate strength 7891. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Admissions and Deaths from each class of Disease. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Total admissions from each class.	Total deaths from each class.	Percentage of sick to strength.	Per centage of deaths to sick treated.
Fevers.	Febris ephemera	126	0	60	0	1178	6	1147	10	2325	16	29 ·463	0 ·688
	„ intermittent quotid.	683	1	845	3								
	„ tertiana	52	0	64	0								
	„ remittens	58	2	36	2								
	„ com. cont.	259	3	142	5								
	Cholera	123	51	39	15	123	51	39	15	162	66	2 ·052	40 ·740
Diseases of the abdominal viscera.	Diarrhœa	114	10	48	5	171	16	103	14	274	30	3 ·472	10 ·948
	Dysenteria acuta et chronica.	36	5	33	7								
	Obstipatio	1	0	4	1								
	Dyspepsia	15	1	16	0								
	Hœmorrhois	4	0	0	0								
	Hepatitis	1	0	2	1								
Diseases of the lungs.	Catarrhus	20	0	20	1	39	2	55	6	94	8	1 ·191	8 ·510
	Asthma	7	1	16	3								
	Phthisis pulmonalis	2	0	0	0								
	Pneumonia	6	1	11	1								
	Dyspnœa	4	0	8	1								
Diseases of the brain.	Apoplexia	0	0	1	0	14	1	7	3	21	4	0 ·304	19 ·047
	Epilepsia	2	1	0	0								
	Paralysis	8	0	4	2								
	Amentia	0	0	0	0								
	Mania	4	0	1	0								
	Hydrophobia	0	0	1	1								
Eruptive fevers.	Variola	4	0	3	0	64	0	12	0	76	0	0 ·963	0 ·000
	Varicella	59	0	6	0								
	Rubeola	1	0	2	0								
	Erysipelas	0	0	1	0								
Dropsies.	Anasarca	6	4	3	2	7	5	5	3	12	8	0 ·152	66 ·666
	Ascites	1	1	2	1								
Rheumatic affections.	Rheumatismus acutus et chronicus	197	4	235	0	197	4	235	0	432	4	5 ·474	0 ·925
Venereal affections.	Syphilis primitiva	35	0	38	0	79	0	71	0	150	0	1 ·900	0 ·000
	„ consecutiva	3	0	3	0								
	Gonorrhœa	23	0	17	0								
	Hernia humoralis	16	0	12	0								
	Strictura urethræ	2	0	1	0								
Specific diseases.	Atrophia	6	1	21	2	16	1	31	2	47	3	0 ·595	6 ·382
	Beriberi	2	0	1	0								
	Dracunculus	6	0	5	0								
	Lepra	2	0	2	0								
	Scrophula	0	0	2	0								
Diseases of the eye.	Morbi oculorum	94	0	110	0	94	0	110	0	204	0	2 ·585	0 ·000
Do. skin.	„ cutis	136	0	231	0	136	0	231	0	367	0	4 ·650	0 ·000
	Other diseases	554	1	604	1	554	1	604	1	*1158	2	14 ·674	0 ·172
	Total	2672	87	2650	54	2672	87	2650	54	5322	141	67 ·443	2 ·649

NOTE.—Percentage of deaths to strength 1·772.

* Including Phlogosis 416, ulcus 249.

Description of the station and Farm of Hoonsoor.

Situation. Hoonsoor, situated about 30 miles west of the town of Mysore, is the head quarters of the public cattle department, and the residence of the superintending Officer.

The grazing lands, are divided into tracts of pasturage named *kawles*. The kawles are scattered over Mysore, and are of various extent; the marshy grounds yield the most nutritious pasturage, and as the land becomes elevated, it is more scanty and deteriorates in quality. The majority of the kawles contain jungle, more or less dense, and several have salt springs, impregnated with muriate of soda, which is considered a quality of great importance.

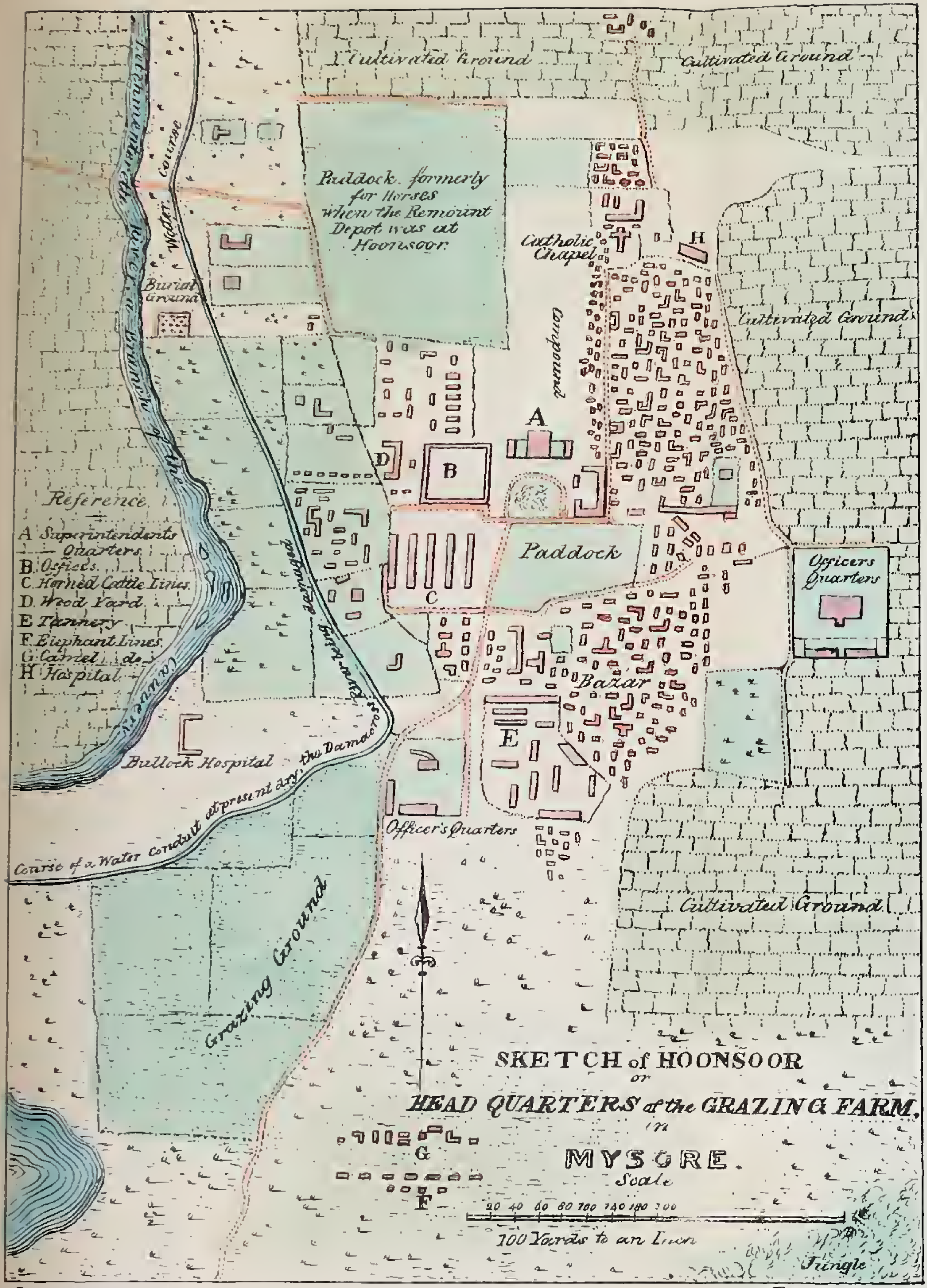
At Hoonsoor, there are always a number of elephants and camels, and a supply of horned cattle fit for service; there is likewise a tannery, which supplies leather for the accoutrements and appointments of the army; and a wood yard, in which barrack and hospital cots are manufactured.

Teak which is the only wood employed in making up cots, is procured from the neighbouring forests, and is generally allowed five years for seasoning, before being used.

At the tannery, hides are converted into common leather, and also into the variety called buff leather, required for military purposes.

The village stands on a gradual declivity, and contains about 4,000 inhabitants, of whom, about 2,500 are ryots, the remainder belong to the public service.

The accompanying plan, will convey a clear idea of Hoonsoor. The horned cattle lines, consist of five tiled sheds 112 feet long, by 16 feet broad, and the cattle kept in them, are always fit for service. They are sent out to the grazing grounds, or kawles in the immediate vicinity during the day, and are brought to the sheds at night, in order that the superintending officer may have an opportunity of inspecting their con-



SKETCH of HOONSOOR
or
HEAD QUARTERS of the GRAZING FARM,
in
MYSORE.

Scale
20 40 60 80 100 140 180 200

Madras Lith Press. B. C. Regel. delr.

dition. These cattle constitute only a small number of those ready for service, the remainder being kept permanently on the other kawles, not far from Hoonsoor.

The elephant lines are situated on a rising ground, having no shelter, as an elevated exposed situation is considered to agree better with these animals, than a sheltered one, for when kept in a place of the latter description, near the banks of the river, they were not so healthy, as in the present locality. Some remarks on elephants and their diseases are hereafter given.

The camels are likewise kept in an unsheltered situation for a similar reason; some notice of their diseases is also given.

Station hospital. The station hospital is a tiled building 93 feet long, by 19½ broad, and is capable of accommodating 30 patients.

River. The village is supplied with water principally, from the river Letchmenteert which rises about forty miles to the south west, being a tributary of the Cauvery, into which it falls ten miles below Hoonsoor, where it is about 100 feet broad. It contains water throughout the year, though according to the inhabitants, it becomes deteriorated in quality during the dry season, when it is considered unwholesome.

Wells. Wells are another source of supply, they are sunk in green stone, and the water in them and also that of the river, is impregnated with muriate of soda.

Climate. By barometrical measurement, Hoonsoor is 2,970 feet above the level of the sea. The temperature of the climate is pleasant, but the country around being jungly, partakes more or less of the unhealthiness of similar situations. Fevers, and chronic enlargements of the spleen, are of frequent occurrence amongst the inhabitants. Ulcers on the lower extremities are also common, and such as arise from accident often assume a foul appearance, shewing an impaired state of the constitution.

The country has an undulating appearance towards the east and north, in other directions, and in the vicinity of Hoonsoor, it is hilly. To the southward are seen the Neilgherries, distant about 100 miles; and to the west the rugged outline of the Coorg mountains; towards the north, it is comparatively open, and in other directions, it is for the most part covered with jungle.

Soil. The cultivated land is either a light soil, or rich black mould, dry grains are principally cultivated on the former, the land being generally too hilly to admit of being watered. The irrigated ground is in the immediate vicinity of the river, across which numerous dykes or drains are thrown. From the artificial height of water thus obtained, proceed several conduits, most of them being upwards of two miles in length. A succession of reservoirs are formed, and considerable tracts of country which would otherwise admit only of dry cultivation, are made to produce luxuriant rice crops.

Geological formation. The prevailing rock formations in the vicinity of Hoonsoor, are veined granite, and green stone. The country is extensively intersected with dykes of the latter; so much so, that it is in many places difficult to say whether green stone or granite is the prevailing formation. The hills for the most part, consist of that variety called concentric basalt of igneous formation.

The following observations respecting the breeding, general management, and diseases of public cattle, are extracted from the reports of the medical officer in charge of Hoonsoor.

Whether the breed of horned cattle employed in the public service of the Madras presidency, be aborigines of Mysore or not is unknown. The improvement of bullocks was particularly attended to, by the late Sultan Tippoo, and at the fall of Seringapatam, his breeding herds and cattle fit for service, became the property of the honorable Company. The breeding establishment was entrusted to the care of the

new Mysore government, and the *public cattle* department, that is, the description of cattle fit for service, placed in the hands of an agent. The government however finding the breed to be deteriorating, in 1813, took the whole establishment into their own hands, and placed it in the charge of the Commissariat department, under which it still continues.

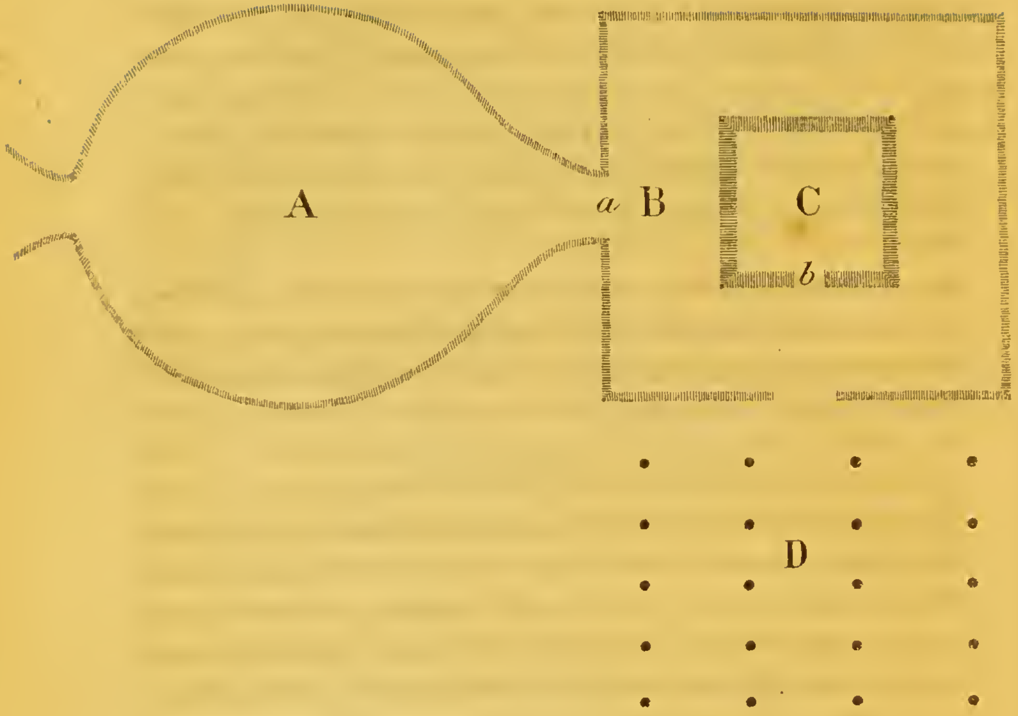
The following remarks respecting horned cattle may be best arranged under the heads of *breeding*, *training*, and *public cattle* department; the diseases to which they are subject will be noticed subsequently.

Breeding Establishment.

The numerical strength of this establishment, is fixed at 18,000 head of cattle, divided into 35 herds, the strength of each being about 500. The breeding season commences in February and March. The bulls are never separated from the cows, and the proportion of the former to the latter is, as 1 to 20. The average annual amount of births is 50 per cent, on the number of cows; and the proportion of male and females calves is nearly equal. The calves are weaned at five months, the females being preserved for the department. The males are castrated between the age of five and twelve months, and in the sixth year they are transferred to the training department. Though a herd consists of both males, and females of various ages, they are not allowed to graze in immediate company, each being divided into 7 lots, called *pauls*, to prevent their injuring one another; thus the cows big with young form one division, and so on. The average number of attendants or graziers, is one to every fifty head of cattle.

Training Department

At the age of six years the training of bullocks commences, previous to which they are nearly as wild as the inhabitants of the jungle. At the training depot, about five miles from Hoonsoor, there is an enclosure, of which a diagram is here given.



The bullocks are first driven into the large enclosure A, which they are made to enter without much difficulty, they are next driven through a, into B, and last of all into the inner enclosure C, which is about 20 feet square, and surrounded with a strong fence, made of wooden posts, placed close together, and about 12 feet high; when they are collected in this, the opening b, is closed. The trainers then ascend on the top of the fence enclosing C, and throw a noose round each of the bullocks horns; this done the end of the rope is passed between the posts near the ground, and the animal is drawn close up and secured, by people on the outside.

The passage b, is then opened, and old trained bullocks admitted, one of the latter is bound by the neck to one of the wild animals which being done, the rope is lossened, when he immediately endeavours to escape; his trained comrade however to whom he is coupled restrains him, though but partially, accordingly the two leave the enclosure at tolcrabe.

speed. The rope by which the untrained bullock was originally noosed, is allowed to remain attached to his horns, and when they approach one of the strong posts placed in the immediate vicinity of the enclosure, as represented at D, the rope is quickly turned round it, by which the animals are again brought up. The untrained bullock is then well secured by the neck with as little latitude of motion as possible. There he is kept alone for about two days, until he becomes considerably tamed, and worn out by unceasing efforts to escape. The next operation consists in attaching to the animal, a couple of blocks of wood, so heavy as to be moved with some difficulty, and giving him as much liberty as this admits of. He is then admitted into the company of old trained cattle, and from the two fold effects of example, and partial restraint, he gradually becomes submissive. After this, he is yoked in company with a trained bullock, first to a log of wood, which they drag along the ground, and then in a bandy or cart, and when perfectly steady, the operation of training, which usually occupies 60 days, is completed.

When the trained animals are classed into artillery, draught, and forage bullocks, the best are selected for the artillery, the medium for draught, and the third are used as forage bullocks.

The general characters of a good bullock are, a round barrel, short strong legs, and broad forehead; the average height is 48 inches, and 50 inches is about the highest standard. Of course weight is also a material consideration. The average weight is about 12* maunds, but hitherto no means have been adopted to determine this exactly.

Public cattle Department.

This department, includes draught and forage bullocks; for although those of the Artillery are also public cattle, they are transferred entirely from the Commissariat, and are therefore not referred to here. The public cattle are divided into 28 karkanahs, each consisting of 100 draught, and 10 forage

* *about* 43 *stone.*

bullocks; 10 karkanahs being attached to Hoonsoor, each of which gives employment to 43 persons.

Of the diseases of horned Cattle.

In order to obtain a knowledge of this important subject, two principal objects have been kept in view, the first of which was, to obtain all the information possible from experienced natives; the second, to study such cases as occurred, and to endeavour to ascertain by dissection the nature of the maladies in all fatal cases. The knowledge of the natives, is of a very meagre kind, confined to the exhibition of a few mussals, the receipts for which have been handed down from generation to generation, the precise mode of action of these is not understood, and there are no fixed principles for their exhibition. Superstitious feeling has evidently had much to do in practice, thus tigers flesh is considered an important ingredient in many of their compounds. The following is a copy of a recipe.

The dry flesh of a tiger well bruised and mixed in water, to be given to sick cattle; after which instead of water, a decoction of raggy and umbly, in which the following ingredients are to be mixed is to be used as common drink, viz. onions ½ cutcha seer, cumin seeds ¼ do., dill ¼ do., tire 2 pucka seers, turmerick ¼ cutcha do. Should a tiger enter into a herd of sick cattle, it is believed that disease soon disappears from the effects of the smell of the animal.

Firing is an universal practice in the cure of disease, and much weight is placed on the pattern of the eschars, care being taken that a certain number of round marks be made in some places, and that in other figures, the "prescribed pattern" be adopted, especially that the line terminates in a certain sign used to represent their gods.

The efficient part of their practice consists almost entirely, in counter-irritation by firing, and in the exhibition of stimulants. Bleeding is not practised, and there is no doubt that if the natives were taught the use of this powerful remedial measure, and to give a proper purgative, or injection

at the commencement of inflammatory diseases, many animals would be saved, whose death is expedited by mismanagement.

Such being the knowledge of the diseases of animals possessed by natives, it cannot be expected that much rational information on the subject of treatment, can be obtained; possibly a few herbs possessing medicinal powers, may be brought to light, nevertheless it is desirable that an insight into their ideas should be attained, in order if possible to correct errors.

The nomenclature of diseases, is nearly as meagre as the knowledge of their treatment; as the following list shows.

Diseases of horned Cattle.

Canarese	Hindoostanee	English name or explanation of disease.
Dod Rogah.	Burra Azar.	Purging.
Nundoo.	Sooka.	Constipation.
Kaal gerah	Mou ka murz.	Eruption of the mouth.
Bye gerah	Paon ka murz.	Cow Pox, eruption of the feet.
Pingeree rogah.		Inflammation of lungs.
Toliah.	Pipsa ka murz.	Disease of lungs.
Sillaih.		Catarrh.
Bao.		
Ageen bao.	Ageen Boa.	

Burra Azăr.

Burra Azăr, is a destructive epidemic resembling the murrain, which carries off cattle in large numbers

Dissections have shown that it is connected with an inflammatory state of the serous membrances, and its fatality appears to depend on an effusion of serum into the cavity of the skull, and spinal canal, the pressure of which, appears to be the immediate cause of death.

From this opinion of the nature of the disease, bleeding is evidently the most appropriate remedy, and on a late occa-

sion, it was practised on several animals, some of whom immediately before the operation were stertorous and insensible. The first effect of the bleeding was to remove the stertor, some attempted to run away, having recovered sufficiently to observe that they were surrounded by strangers, and others commenced feeding. But the final result was by no means so successful, as the favorable indications at the commencement led the operator to anticipate. It is very possible however, that these cases came under treatment in too advanced a stage of the disease.

At the commencement of the attack, the hair stands erect, the ears fall and the animal has a sickly aspect; the body becomes hot, the nostrils red, and a watery discharge flows from the eyes; after the lapse of an indefinite period, generally about two days, purging supervenes, the evacuations being very offensive, and containing slime and blood; there appears to be much griping, and the stools are ejected with force. The urine during the progress of the disease, becomes bloody, the breath very offensive and maggots are generated in the nostrils.

Cattle are liable to be attacked with this complaint at all ages, and it is most prevalent during the hot season; its duration is usually from three to ten days.

The native treatment consists in firing near the eyes, and along the spine, and the following *mussal* is given three times daily.

Canarese.		
Mudgega.	Butter milk—	1 seer.
Jeerga.	Cumin seed—	¼ seer.
Eroolee.	Onions	½ seer.
Raggy	Natchenny	1 seer.
Neer.	Water	1 ¼ seer.

Ageen Bao.

The symptoms of this disease are constipated bowels, suppression of urine, hurried breathing, and diminished secretion

from the nostrils and mouth, that from the nostrils being sanious; bullocks of every age are subject to this affection, it occurs at all seasons, and is generally supposed to be caused by eating noxious herbs.

The native treatment consists in the exhibition of purgatives, and branding on the back, belly, forehead and temples.

Case.—5th October. A draught bullock 8 years old, ceased grazing about noon. In the evening on returning to the shed, walked unsteadily and lay down on arrival at the lines; the abdominal muscles were frequently and forcibly contracted, breathing rapid.

Had four pice weight of hog's lard, and was branded on the back, belly and head; cloths dipped in cold water, were applied round the body, and a quarter of a seer of the leaves of a native herb, called oothamany, which possesses carminative properties, was given.

On the following day, the animal was considered moribund, nevertheless it was bled to three pints, and had five injections; during the night a small scybalous stool was passed with slime and some blood. The blood drawn separated into serum and coagulum. On the third day, injections with half a seer of salt, were administered six times; the spasms of the abdominal muscles however increased. On the fourth day, some more hardened fæces were passed with slime, and in the evening the animal died.

Dissection six hours after Death.

On separating the head from the body, by cutting through the ligaments connecting the skull with the spine, a flow of sanious fluid occurred. The blood was gelatinous, in some of the vessels semitransparent, and admitted of being drawn into strings, of a foot in length.

In one of the lobes of the lungs, there was a cyst about three inches in diameter, lined with a white coagulum, and containing transparent fluid, in other respects, they appeared

healthy; the heart was found filled with gelatinous coagula, which retained the form of the containing cavities.

The many-plies, was distended with dry fæces of a black colour, particularly where in contact with the folds of the organ.

The small intestines were vascular in some places, but did not exhibit signs of disease; the fæces in the lower bowel were scybalous, and covered with mucus. The bladder was distended with urine.

It would appear that in this case venesection was necessary, and should have been followed up by active purgation, as the proximate cause of the disease, it is probable, consisted in inflammation of the many-plies or omasum.

Case of Bao.

November 30th, a bullock 14 years old was seized with purging, dung watery and green coloured, subsequently passed blood, no fever; was bled to two seers on the 1st December, blood inflammatory, after bleeding a cold infusion of the bark of aulamurrum was given, the purging stopped, the stools became healthy, but the animal would not eat, and it died on the 5th day.

The disease is said to be epidemic; it is always treated with an infusion of aulamurrum bark, and firing.

Inspection of the Carcase.

The large bowels slimy, but otherwise healthy; no vascularity except near the head of the colon, two feet from the valve.

About three yards of the small gut were vascular, and the healthy parts had a greenish hue, and were covered with slime. The gall bladder full of yellow bile, liver healthy.

The left lung emphysematous, which in the opinion of the natives is the immediate cause of death; the spinal canal contained much watery fluid.

The brain was healthy, perhaps rather exsanguinous, the theca vertebralis appears to have been the chief seat of the disease.

The instructions given in "Clater's cattle doctor," and in "White on cattle medicine," have been found useful in the ordinary diseases of these animals.

For opacity of the cornea, a common result of injury of the eye, the application of solid lunar caustic is the best remedy.

Elephants.

The elephants employed in the public service are procured from Bengal. These animals abound in the jungles adjoining to Hoonsoor, and frequently commit great depredations on the crops, but are of a comparativcly weakly description, and totally unfit for work; the clephants of the Coimbatoor jungle, wcre likewise found to be useless.

Of the diseases of Elephants.

The knowledge possessed by the Mahouts or attendants is very limited, their notions of the nature of internal disease being vague; and thcy have no principles to guide them in the exhibition of their mussals, for which they have numerous formulæ, the chief ingredients of these are stimulants, but several inert substances are also prescribed, such as peacock's feathers, silk, sheep's lungs, &c.

The subjoined list includcs some of the diseases to which the elephant is subject.

Hindoostanee.	English name or explanation of disease.
Wae gollah.	Colic or windy pain.
Shool.	Pain in bowels.
Kutcha zhaar baad.	Collection of water, commencing at the navel, and cxtending rapidly in the dircction of throat.
Ageen Boa.	Vcsiclcs arising on thc head, neck, ears, and upper part of trunk; not dangerous.

Khaandy.	Ulcer under the nails.
Baambood.	Ulcer of foot.
Khurwah.	Ulcer over haunch bone.
Cheeta.	Opacity of cornea.
Unjun.	Staphyloma.
Dhaak ka murz.	Trembling and restlessness.
Bao-ka-murz.	Vomiting.
Bummony.	Ulceration of the joints of the tail.

Case and dissection of an animal, which died of daak ka murz.

Daak ka murz.

17th October 1835, a male elephant aged 35 years, emaciated for four years past, during which period it has laboured under the disease called som-ka-zhaar-baad, or thinness of blood, appetite has been good, alvine evacuations variable, being sometimes loose, for eight or ten days together, during which period two kinds of worms were passed, one of a white colour about two inches in length, and the thickness of a stout pin, the other red and oval shaped ; urine healthy. Its present complaint, daak-ka-murz, commenced on the 15th instant. Zhaar baad, impossibility of swallowing came on yesterday morning, and pipsa-ka-murz inflammation of the lungs yesterday evening.

No stool since yesterday morning, urine passes freely, surface cold and shrivelled, is tranquil, sits for a few minutes occasionally at night, but has not lain down for the last three days or slept, which is indicative of severe illness, vomits all it eats and drinks. There is hardness and swelling in the neck, occasioning the difficulty of swallowing ; frequently vomits a glairy fluid in small quantities.

On the 15th about 6½ P. M., gave the following mussal.

Hindoostanee.	English Names.
No. 1 Pipla mod, three pice weight.	
„ 2 Kootkee, three pice weight.	
„ 3 Udrak, six do.	Green ginger.

„ 4 Googaal, three do.	
„ 5 Inderjote, six do.	
„ 6 Palaas paupery six do.	
„ 7 Hing, one pice weight.	Assafætida.
„ 8 Sh'hud quarter seer weight.	Honey.
„ 9 Sohagah three pice weight.	Borax.

Roasted Nos. 7 and 9, which with all the other articles, except No. 8, were reduced to powder, and rubbed together in a mortar, No. 8 was then added, and the whole mass made into a bolus wrapped in grass, and put into the animal's mouth, when it was forced to swallow it.

The above was retained, but the animal vomited about an hour afterwards.

At 9 P. M. the vomiting increasing, the following was given.

Hindoostanee.	English Names.
No. 1 Send ke chumra, ten pice weight.	Milk hedge bark.
„ 2 Sage ke, do. do. do.	Horse radish tree bark.
„ 3 Musumber, six pice weight.	Aloes extract.
„ 4 Googal, three do.	
„ 5 Kootkee, two do.	
„ 6 Baaroot, three do.	Gun powder.
„ 7 Lasson, half seer.	Garlic.
„ 8 Raye, six pice weight.	Mustard.

No. 2, cut into small pieces, was put into a chatty with the remaining articles, and boiled with one seer of children's urine, till the urine was evaporated; the mass whilst soft was formed into three doses; one of which was rolled up in grass, put into the mouth and apparently swallowed.

During the 16th several mussals, consisting of the following ingredients, were put in the mouth, but the animal could not swallow.

Hindoostanee.	English Names.
No. 1 Sont, two pice weight.	Dried ginger.
,, 2 Peppla mor, two pice weight.	
,, 3 Pepple, two do.	
,, 4 Mohur ka pur, one pice weight.	Peacock's feather.
,, 5 Ashes of taftee ka cupra, one pice weight.	Silk.
,, 6 Peepsa buckra ka, quarter seer.	Goat's lungs.
,, 7 Hurtall, one pice weight.	Arsenic, yellow sulphuret of
,, 8 Dickee malee, three pice weight.	

All these articles were reduced to powder, and made into a mass with half seer of honey, sufficient for four doses.

During the 16th, eat some grass, but rejected the mussal, drank occasionally, and appeared to swallow part of the fluid.

In the evening a fire was lighted to windward, to warm the body.

17th Irritability of stomach continues. A liniment—tid-daree—composed of send-ka-dood, or the juice of the milk hedge, and the juice of the prickly pear, was rubbed on the neck.

The wood of the milk hedge with garlic, mustard and chillies, boiled in goat's urine, was applied moderately hot as a fomentation to the neck.

The elephant died 2 P. M. 18th October.

Dissection.

The pharynx very vascular, as also the interior of the wind pipe and gullet, the wind pipe contained a quantity of froth.

The gullet was filled with masticated food, down to the diaphragm, where it was contracted, inflamed and covered

with purulent matter ; the stomach was highly vascular, and very much contracted ; the lungs did not collapse, and were inflamed ; the blood in many of the arteries of a gelatinous appearance.

The inner coat of the rectum was thickened.

The cavity of the abdomen contained a great quantity of fluid.

The disease of which this animal died, appears to have been inflammation of the stomach in the first instance, which extended up the œsophagus, and subsequently to the trachea and lungs.

The vomiting indicated that the gullet was unobstructed in the early part of the disease, so that the impactment of masticated food, might have arisen from spasm of that part of it which it passes through the diaphragm. The stomach contained no food, but was as mentioned above, very vascular, and had a viscid substance covering its surface.

The powerfully antispasmodic effects of venesection, would if early resorted to, in all probability have removed the irritability of the stomach, and also the spasm of the diaphragm ; and it is evident, that preventing the animal from taking food is essentially necessary to prevent impaction in the gullet. A second case of this disease occurred in an elephant, which was bled freely, but at too late a stage, as the swelling in the gullet indicative of impaction, was distinctly perceptible.

As this disease, according to the experience of the mahouts, uniformly proves fatal, it was considered advisable by the medical officer in charge, to address the following letter to the superintendent.

Sir,

I have the honor to state, that I have minutely dissected the elephant that died yesterday, and that on comparing the history of the progress of the disease, known amongst the

mahouts by the name, daak-ka-murz, as it shewed itself in the animal just alluded to, and in one that died a few months ago from the same complaint, as also from the appearances on dissection, I feel much confidence in recommending, when symptoms of this disease first shew themselves, that the animal be freely bled ; very eligible places for this operation are the large veins on the back of the ear, near the base. The veins of both ears ought to be opened, and the animal bled to twelve pounds, and repeated a couple of hours afterwards, if the vomiting continues. Secondly, the animal ought most rigorously to be prevented eating any solid food, until every symptom of tendency to vomiting has disappeared.

The principle on which the treatment by bleeding is founded, is that the disease is of an inflammatory nature, and the withholding of solid food is requisite because spasm of the lower part of the gullet appears to exist, preventing the passage of food into the stomach ; when the animal swallows, the food becomes impacted in the gullet throughout its whole extent ; palsy of the gullet takes place from over distension, and it afterwards inflames and mortifies, and death appears to result from mortification. The efforts of the animal's constitution might overcome the inflammatory part of the disease ; but are unable to do so with respect to the stuffing of the gullet.

The promulgation of the treatment above recommended might be of great benefit. The average number of the elephants here during the last nine months has been eighteen : and two have died of the disease under consideration.

Hoonsoor,
22d May, 1836.

I have the honor, &c.
(Signed) W. Gilchrist.

The next disease of the elephant, an opportunity of treating which has occurred, is inflammation and suppuration of the subcutaneous cellular membrane. This usually though not always, arises from external causes, such as unequal pressure of the animals load on its back, or of the

ropes employed in securing it; the inflammation is often succeeded by sloughing of the parts below the skin, which being half an inch in thickness, is seldom so much injured, as to admit of the discharge of pus; it consequently having no orifice for escape, gradually undermines the skin, destroying the subjacent membrane. The native treatment is rational if resorted to early, viz. making an incision for the escape of the pus, the error is in delay; as this measure is not adopted until a large accumulation has formed, and absorption of the skin to a certain extent has taken place; the consequence is usually a very extensive and unnecessary undermining, and of course proportionate tardiness of cure.

Sometime ago an elephant came under treatment, four and a half square feet at least, of whose back was undermined, and upwards of a year elapsed before the animal was cured; whereas had the cyst been opened early, it would have been much sooner available for duty, and moreover much more efficient, as a long period must elapse before the new skin attains a firm structure.

In many cases, carelessness on the part of the mahouts, has been the cause of this affection; and in others, it has been occasioned by the faulty construction of the elephant's furniture, more especially of the ropes, which should be flat, and not less than three or four inches in breadth; whereby the pressure on a narrow space, unavoidable in the case of a round rope, would be prevented. Detergent applications, as a solution of blue stone, or camphorated oil, should be applied after incision, to produce a healing action on the surfaces of the cyst, and subsequently pledgets, to admit of adhesion going on regularly, from the circumference towards the line of incision.

The common principles of surgery in the treatment of foul ulcers, and of ulcers with obtuse or undermined edges, have been advantageously introduced in the treatment of public cattle of every description.

Lungun or Fasting.

The disease known by the above name, depends on the existence of flat roundish parasites in the intestinal canal, producing irritation of the bowels, and occasioning fetid and slimy evacuations. Whether the worm is generated in the bowels or not, is uncertain. They have been found in great abundance, in the biliary ducts of an elephant, while none were observed in the intestines.

The treatment consists in copious purging with aloes, which speedily effects a cure.

It may not be uninteresting to give a statement, shewing the weight of one of the elephants, and the relative weight and dimensions of several of the viscera.

Weight of carcase................	cwt. 23, qrs. 2, lbs. 2	
The brain free of all membranes, weighed	lbs. 9 avoirdupois	
Liver................................	,, 65	
Lungs................................	,, 60	
Heart................................	,, 24	
Length from tip of trunk to end of tail....	18 feet	
Height from ground to top of shoulder.....	7½ ,,	
The rectum measured.....................	8 feet in length	
Colon.......................do........	22	do.
Small intestines..............do........	30½	do.
Stomach.....................do........	4	do.
Gullet.......................do........	3½	do.

Total length of alimentary canal 68 feet.

The average of the circumference of the colon was 3½ feet.

Camels.

The following is a list of the diseases to which camels are subject.

Hindoostanee.	English name or explanation of disease.
Kapalee.	Disease of head.
Zhaar baad.	Dropsy of legs and abdomen.
Sool.	Colicky pain of belly.

Jholah	Rheumatism.
Pepsah-pool-ta-so.	Lungs turgescence of
Raafa	Ulceration of raafa, or hard substance on sternum.
Coodke	Cough.
Dundee.	Disease of penis.
Sool gutteah.	Swelling of joints.
Kadda.	Swelling of neck.
Dumma.	Hurried respiration.
Kurrk.	Broken winded.
Sozaak.	Gonorrhœa.
Adrung.	Stiffness of legs.
Cummaan.	Tetanus.
Goorooz.	
Runduck pith.	Ulcer of back.
Unjun.	Opacity of cornea.
Kaarash.	Itch.
Murghee ka murz.	Fits of an epileptic character.

An affection for which numerous camels have been under treatment, is ulceration of the back, occasioned by neglected abrasions from the saddle.

The treatment consists in the use of the actual cautery in severe cases, which proves the best detergent, a solution of blue stone, or camphorated oil, being used in milder cases, and also removing undermined edges with the knife, and laying open such as are of a fistulous character.

Kaarash or Itch.

This affection shows itself in dark coloured spots over the neck and body. In the treatment a liniment composed of sulphur, marking nut and gingilee oil, with an occasional purgative, proves very efficacious.

Raafa.

The raafa is that large tuberosity on the sternum of the camel, on which it rests when in a *couchant* position. The substance of the raafa is condensed cellular membrane with some cartilaginous matter. It is subject to sloughing ulceration, and deep seated extensive fistulæ occasionally causing the death of the animal.

The native treatment consists of firing, which tends more to aggravate than to assuage the disorder. The inflammation of the raafa is much of the nature of a carbuncle, and incision down to the seat of the affection is the proper treatment, with detergent dressings.

Murghee-ka-Murz.

The murghee-ka-murz is of an epileptic character. The animal being occasionally seized with a convulsive motion of the limbs; the attacks have sometimes regular periodical intervals of two or three days. If standing when attacked it falls down, the neck is drawn backward, the limbs continue to be convulsively agitated, it appears insensible, continues to make a loud guttural sound, and when the fit which lasts about four or five minutes is over, it gets up, and commences eating as if nothing had occurred. The attacks generally come on whilst feeding.

The native treatment consists of firing, and the exhibition of stimulating boluses, but appears to be inert.

Bleeding has been found to check the occurrence of the fits, on one occasion they did not recur for a fortnight afterwards, and on another for twenty days ; no opportunity of trying this treatment at an early period of the disease, has however yet occurred, and the case in which it was resorted to terminated fatally, but not during a paroxysm. The animal died apparently from debility.

Inspection of the bodies of two camels which died of this complaint, showed a large quantity of sanguineous watery fluid in the spinal canal ; the pressure of which on the cord, is probably the immediate cause of death.

It may be here remarked, that on the dissection of several carcases of camels, cysts in the lungs have been observed, varying from the size of a nut to that of an orange, and containing a transparent fluid. These cysts are very elastic, and when cut into, project the contents to some distance. They are met with in animals out of condition, and although not incompatible with life, are associated with a disordered state of the constitution.

Remarks on bleeding in the Elephant, Camel and Bullock.

The most eligible and appropriate situation for venesection *in the elephant,* is in a large vein behind the ears, where as the skin is thin, the operation can be easily performed, with a two-edged scalpel.

In the camel, venesection is easily performed in the external jugular vein. This vessel, for about eight inches of its course in the upper part of the neck, is very superficial, and being about an inch and a half in diameter, blood can with every facility, be abstracted by means of the common horse fleam. Previously to performing the operation, the animal must be made to assume the " *couchant*" position, its legs are then to be secured to prevent its rising, a rope must also be passed around the lower portion of the neck to impede the flow of blood towards the heart, and to cause the vein to swell.

In the bullock, the external jugular vein, is also the most eligible place for bleeding ; but owing to the skin being extremely loose and moveable, it has been found that bleeding horned cattle, is not so easy an operation, as it is in either the elephant or camel. The two-edged scalpel or large abscess lancet is a much more useful instrument than the fleam, and the operator is more certain to succeed if an incision is made in the skin over the vein, before opening the vessel. The operation ought therefore to consist of two stages, the advantage of which is, that if the skin moves, which usually happens, a larger opening being made in it, prevents the wound in the vein from being overlapped.

Camphorated oil, the sulphate of copper in solution, and turpentine more or less diluted, have been found very efficient detergents in foul ulcers ; and with respect to purgatives, the extract of aloes has been found to be the best in each description of animal.

For the elephant the average dose is..... ℥ vi.
the camel.......................... ℥ iv.
horned cattle...................... ℥ ii.

Glauber salts in doses of ℥ viii. operates as an aperient on horned cattle; but in ℔ i. doses, repeated twice or thrice, produced no effect on camels.

REMOUNT DEPOT.

The Remount depôt, though not in the Mysore division, may be included in the topographical account of that territory, being on the same table land five miles from the borders, in the Salem district. It lies 26 miles south-east of Bangalore, and 4 due south of the town of Ossoor. The situation which was originally selected by Major Hunter is particularly healthy, being open and free from jungle and swamps, and having a dry gravelly soil. The ground occupied by the depôt, extends over about 200 acres. The chief cultivation around is dry grain, with some paddy and sugar cane, in the vicinity of tanks. The lines which slope towards a large tank to the north west, are sufficiently extensive for upwards of 1,200 horses, and are easily kept clean and dry. The horses are watered from the tank, and colts from troughs filled from a large well, of which there are a great number, affording an abundant supply of excellent water throughout the year.

The establishment has lately been increased by the addition of a breeding farm; and the breed from the Arab stallion, and the large country mare, is found to be well qualified for cavalry and artillery duties—and in general equal to most of the horses brought for sale by Arab dealers.

The stabling and paddocks are in the vicinity, and under the same superintendence. The European establishment consists of an officer of the commissariat department, and two overseers, of the rank of conductors, one of whom superintends the remount, and the other the breeding establishment. The horsekeepers and servants have lines close to their duty, which are kept clean and in good order.

The climate resembles that of Bangalore, and is considered particularly healthy, bracing and exhilirating.

The prevailing diseases are chiefly slight cases of intermit-ent fever, with a few of the remittent form, the latter oc-urring usually in May and November; but they are gene-ally very tractable. Cholera is the only epidemic that has hown itself for many years, and that not to any great extent, he average deaths at each visitation, not exceeding sixteen.

There is a medical subordinate attached to the depôt, who ttends the public servants at their own houses, there being 10 hospital. The average daily number of sick is about ight, the numerical strength varying from seven to fourteen undred.

The horses are in general very healthy, but sometimes in he months of March or April, slight febrile diseases pre-ail, but seldom prove fatal. No epidemic has ever occurred mong them, since the station was first occupied.

There is a party of 25 troopers from the regiment of native cavalry at Bangalore, stationed at the depôt for the purpose of superintending the grooming and *longeing* of horses, and another consisting of 12 sepoys, for the protection of public property.

REMARKS ON THE GENERAL TABLES.

Remarks on the general tables of diseases.

The general tables of disease appended, will shew the nature and amount of sickness and mortality each year, for a period of ten years, from 1829 to 1838 inclusive, both in the European and native soldiery.

That for the European troops gives 163 admissions per cent annually, on the strength, and 1·718 as the average annual per centage of deaths to the sick treated; whilst the per centage of deaths to strength has been 2·803.

In the years 1833 and 1834 these averages were somewhat exceeded, the increase being produced by cholera, dysentery, diarrhœa and fever. In the latter year as has been mentioned, an unusual state of the atmosphere prevailed.

The general abstract table No. 2, which includes all the admissions and deaths during the ten years, shews that a considerable increase of sickness but more especially of mortality, has taken place during the first half yearly period, attributable to the influence of the south west monsoon; at this time febrile disease and bowel complaints become prevalent, and the mortality from the latter, and from cholera, increase the number of deaths in the first half yearly period, nearly one third above that in the second half of the year.

The most numerous diseases have been *fevers* of the various types but especially the *continued, cholera, dysentery, diarrhœa, hepatitis, rheumatism and syphilis;* and the most fatal have been *dysentery, cholera, hepatitis, fevers and affections of the chest.* The per centage of admissions from these diseases to the strength, and of deaths to the sick treated, will be at once seen on reference to the table No. 2.

The tables No. 3 and 4, shew the amount of sickness and mortality amongst the native troops both at head quarters, and at the out stations in the division, for the same period of ten

years. The total number treated has been 46,976, and 991 deaths have occurred from an aggregate strength of 70,016; thus giving 67·093 admissions annually for every 100 men, and 2·109 deaths per cent on the number treated, and 1·415 deaths per cent on the strength.

The number of admissions greatly exceeded the average now stated in 1834, the year of famine, from the prevalence of fever, diarrhœa and dysentery. The mortality was much above the average in 1829, 31, 32 and 1833, occasioned almost exclusively by cholera.

Table No. 4, exhibits a considerable increase of admissions and deaths in the first half yearly period, in the native as well as amongst the European troops, and principally from acute diseases, cholera, diarrhœa, dysentery and fever; the number of deaths during this period, compared with that which occurs in the second half year, being 594 to 397—or fully one third more.

The most numerous admissions have been from *cholera, diarrhœa, dysentery, fevers,* especially of the *intermittent type, ophthalmy, rheumatism, syphilis* and *thoracic complaints;* and the mortality has chiefly resulted from *cholera, diarrhœa, dysentery, fever, thoracic diseases and rheumatism.*

In the larger and more comprehensive tables, No. 5 and 6, for five years, the diseases are classified, as in those given for the preceding divisions, both for European and native sick. The total admissions amongst the European troops amount to 13,498, with 183 deaths, from an aggregate strength of 8,069 men; the per centage of admissions to strength being 167·282, of deaths to sick treated 1·355, and of deaths to strength 2·267; in these respects coinciding closely with the results in the preceding table for ten years.

The corresponding table No. 6, for the native troops, gives 76·552 as the annual number of admissions for every 100 men, and 1·617 deaths per cent on the sick treated, while the per centage of deaths to strength during the same period has

been only 1·237; the total admissions amounting to 27,085, with 438 deaths, from an aggregate strength of 35,381 men.

The tabular statements No. 7, 8, 9 and 10, exhibit at one view the proportion and per centage of admissions and deaths from the most important diseases, and from the principal classes of disease both amongst European and native troops.

In conclusion a few observations relative to the influence of the climate of Mysore on the health of native troops arriving in this division may be given.

It has been observed that native troops are peculiarly liable to fever on their first arrival, and more particularly those coming from the western coast or the Carnatic; For example the 20th N. I. arriving from Cannanore, in 1834—the 27th in the same year, from Palaveram, the 4th N. I. in 1835, and the 32d N. I. in 1836, from Cannanore; all these regiments suffered severely for nearly two years from fever, but when the men became acclimated it almost wholly disappeared. On first arrival the 27th had 637 admissions within six months, and in the second year they fell below one third of that number. On the other hand it has also been observed, that regiments coming from the northward to Bangalore, suffer less severely, e. g. the 38th N. I. from Kamptee, and the 34th N. I. from Secunderabad, in 1838; the returns from these two corps exhibiting but a trifling increase above the average sickness.

The general type of the fever is the quotidian intermittent, the mortality attending it not being above $1\frac{1}{4}$ per cent. The most severe cases of this form of fever, and a considerable proportion of the remittents, have occurred amongst the detachments sent to Yelwall, and other places,* and in regiments marching. The 32d regiment N. I. passing through the Wynaad jungle in 1837, contracted many bad cases of remittent fever, the mortality in which form of the disease is nearly $4\frac{1}{2}$ per cent on the sick treated.

* A detachment of 20 troopers of 8th Cavalry in 1838 were attacked to a man, another of the 7th Cavalry in 1832, also all suffered at Mysore, and a party of the 27th N. I. in 1831 suffered greatly from remittent fever.

In both forms relapses are frequent, and although the deaths are by no means numerous, yet many of the sepoys become greatly emaciated, and are inefficient as long as they continue in the Mysore province; and even for a considerable time afterwards, it has been observed in many instances, in the regiments above mentioned, that they do not speedily regain their strength. Enlargement of the spleen and dropsy are mentioned by medical officers as frequent sequelæ, diarrhœa also and a state of general debility or permanent atrophy, are not unfrequent.

With regard to the treatment of fever, in intermittents for the most part, after the usual primary means, bark was had recourse to before a cure could be effected, but of late years sulphate of quinine has superseded this medicine. In the remittents depletion has been generally requisite, usually by leeches, but occasionally by the lancet; mercury has been more freely exhibited in this than in the other forms of fever; it has been given along with the antimonial powder or ipecacuanha; in many instances it was necessary to carry it to the extent of salivation before the disease would yield. It is frequently observed in the reports of the medical officers, that after the first few days of treatment, the disease so far yielded as to assume the intermittent form, when the sulphate of quinine has been given with immediate success.

Connected with these effects of climate, the following extracts from the general reports on the health of the troops by the superintending medical officer, are worthy of being recorded.

"In the month of July the sick of the regiment (27th N. I.) amounted to 85, and amongst the families nearly 400 were suffering from fever. The records of admissions clearly proved that almost every man had been admitted twice, and many of them several times with fever; that the first exposure to the night air on guard, or other duty, brought on a relapse, and that during several months the regiment has been nearly non-effective. The state of the regiment was reported to the

officer commanding the division, and it was recommended that the corps should be relieved from all duty for ten days. In seven days the sick in hospital were reduced to 55, and amongst the families a corresponding improvement was obvious, as the several members had not then to go with provisions for the men, who before were on duty in the fort. The benefit of this exemption from duty was so decided, that unsolicited a further exemption was granted, and to this indulgence, may be imputed the restoration of this regiment to its usual proportion of sick; but the fever left many of the men in a sickly and debilitated state."

"The cause of this fever does not appear to be connected with the locality of the lines, for none of the four infantry lines have ever been exempted from fever on the arrival of corps from the Carnatic or a warmer climate; it requires that the men coming from a warmer climate to the Mysore division should have time to be acclimated."

"The 27th N. I. arrived at Bangalore from Palaveram in March 1834; soon after, fever appeared amongst them; a part of the regiment was detached to the French Rocks and Mysore, both of which suffered equally with the head quarters at Bangalore."

"The sickness which has occurred in the 32d N. I., lately arrived and occupying the lines of the 4th N. I. (who had left in a healthy state) may be adduced as another instance of the peculiarity of the constitution of men arriving in this division from the low country, as being unsuited to the Mysore climate, until it has become habituated to it. The fever this corps has suffered from was the bilious remittent or jungle fever; the period for the intermittent form is usually immediately after the first heavy fall of rain."

"The 6th regiment light cavalry arrived at Bangalore on the 31st October last from Trichinopoly, this regiment has hitherto escaped fever, but the change of climate has not failed to develope a state of the system in men unprepared for

the change to a cold climate. The slightest injuries have quickly run into extensive ulceration, whilst nothing of the kind was experienced in the 8th light cavalry which had been some time at the station, although the men were daily receiving kicks and other injuries from the horses." Dated 31st December, 1836.

"The chief mortality occurred in the 32d N. I., which arrived here in January from Cannanore, since which 19 men have died. The sickness which invaded this corps on its march was remittent fever, evidently produced by miasma while passing through the Wynaad jungle;* some cases of bronchitis also occurred, the result of the great change of temperature to which the men were exposed in ascending the Mysore country, and probably also in part owing to a want of energy in their constitutions from the low diet, the Malabar coast usually affords, consisting chiefly of fish; the effects of long continued exposure to a moist atmosphere producing a relaxed condition of the system, thereby rendered them less capable of resisting disease."

"That these circumstances have their influence as predisposing causes it is fair to infer, from the comparatively healthy state of the 4th N. I. which proceeded in the same season from hence to Cannanore, without experiencing any particular sickness either on the march, or after its termination." Dated 30th June, 1837.

Rheumatism. *Rheumatism* is of frequent occurrence, and generally very obstinate; it is occasioned by the coldness of the climate and the sudden changes of temperature. In some cases mercury is beneficial, in others colchicum with opiates; but in many, nothing short of a change of climate is attended with any permanent good result.

Diarrhœa. *Diarrhœa.* The cases of this affection have generally occurred while regiments have been marching, especial-

* The Wynaad jungle is considered more or less unhealthy or malarious at all seasons of the year; but the most favorable period for passing through it, is from September till about the middle of February. At the end of the latter month the sickly season sets in; the most unhealthy or dangerous period throughout the year being considered the months of March, April and May; and, owing to the excessive rains of June, July and August, the roads during these months may be deemed impracticable.

ly in 1834, during the Coorg campaign, and in 1837 when disturbances arose in Mercara; caused by exposure to cold under canvass.

Cutaneous affections are also very numerous, consequent upon obstructed perspiration, from cold, and want of due attention to cleanliness.

Dracunculus. *Dracunculus* is very uncommon in this country, and of the cases seen in the abstract table No. 4, no fewer than 72 occurred in the 18th regiment N. I. in the first half year of 1838;—this corps had been stationed at Madras during the early part of the previous year, in a locality where the disease is known to exist; and, as the period of time the *Filaria* takes for its developement in the human system, is supposed to be twelve months, it must have entered the bodies of these men whilst stationed at Madras in the months of February, March and April, 1837.

MYSORE DIVISION.

Table No. 1.—Return of sick of the European Troops, exhibiting the half yearly Admissions and Deaths from the principal diseases, and those which have been either Epidemic or Endemic, during the period of ten years, from 1829 *to* 1838 *inclusive.*

Years.			Admissions and deaths.	Apoplexy.	Atrophy.	Beriberi.	Cholera.	Cutaneous diseases.	Delirium Tremens.	Diarrhœa.	Dysentery.	Elephantiasis.	Fever ephemeral.	" continued.	" intermittent.	" remittent.	Guinea worm.	Hepatic diseases.	Insanity.	Leprosy.	Ophthalmy.	Rheumatism.	Small Pox.	Syphilis &c.	Thoracic diseases.	Ulcer phagedenic.	Wounds & Injuries.	Other Complaints.	Average strength each year.	Annual per centage of sick to strength.	Annual per centage of deaths to sick treated.	Annual per centage of deaths to strength.
1829	Admitted.	1st half.	1,239	1	0	0	110	0	0	43	115	0	0	64	28	13	0	93	1	0	52	38	0	108	20	0	130	423	638	149 .450	2 ·328	3 ·470
		2d ,,	1,209	4	0	0	2	0	0	21	98	0	0	72	7	4	0	60	1	0	56	53	0	203	9	0	178	441				
	Died.....	1st half.	34	0	0	0	10	0	0	0	8	0	0	0	1	0	0	7	0	0	0	0	0	0	2	0	0	6				
		2d ,,	23	3	0	0	1	0	0	1	6	0	0	0	0	0	0	7	0	0	0	0	0	1	2	0	0	2				
1830	Admitted.	1st half.	1,050	4	0	0	6	0	0	18	119	0	0	104	7	3	0	83	1	0	42	55	0	123	21	0	146	318	1380	133 ·695	1 ·734	2 ·318
		2d ,,	795	3	0	0	8	0	0	37	97	0	0	86	0	2	0	48	0	0	43	84	0	72	23	0	119	223				
	Died.....	1st half.	22	1	0	0	1	0	0	1	9	0	0	1	0	1	0	5	0	0	0	0	0	0	2	0	0	1				
		2d ,,	10	0	0	0	1	0	0	0	4	0	0	0	0	0	0	2	0	0	0	0	0	0	1	0	1	1				
1831	Admitted.	1st half.	952	8	0	0	44	0	0	32	118	0	2	115	8	9	0	88	0	0	59	28	0	67	56	0	129	189	1533	143 ·444	2 ·046	2 ·935
		2d ,,	1,247	3	0	0	11	0	0	74	113	0	0	127	2	7	0	125	0	0	68	37	0	78	52	0	167	383				
	Died.....	1st half.	27	0	0	0	12	0	0	2	2	0	0	1	1	1	0	1	0	0	0	0	0	0	3	0	0	4				
		2d ,,	18	1	0	0	3	0	0	0	2	0	0	1	0	1	0	6	0	0	0	0	0	0	2	0	1	1				
1832	Admitted.	1st half.	979	1	0	0	8	0	0	13	72	0	1	98	0	2	0	135	5	0	22	38	0	62	35	0	169	318	1465	127 ·986	1 ·493	1 ·911
		2d ,,	896	2	0	0	14	0	0	11	63	0	1	86	2	9	0	89	3	0	40	18	0	50	38	0	147	323				
	Died.....	1st half.	13	0	0	0	1	0	0	1	3	0	0	1	0	0	0	5	0	0	0	0	0	0	1	0	0	1				
		2d ,,	15	0	0	0	2	0	0	1	4	0	0	2	0	0	0	2	0	0	0	1	0	0	1	0	0	2				
1833	Admitted.	1st half.	1,952	5	0	0	346	0	0	121	216	0	10	195	5	14	0	71	0	0	37	46	0	135	234	0	132	385	1503	236 ·859	2 ·612	6 ·121
		2d ,,	1,608	2	0	0	14	0	0	60	170	0	1	137	2	6	0	75	1	0	34	43	0	385	105	0	146	427				
	Died.....	1st half.	69	4	0	0	56	0	0	0	2	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	1	2				
		2d ,,	23	0	0	0	3	0	0	1	10	0	0	1	0	0	0	1	0	0	0	0	0	0	3	0	0	4				
1834	Admitted.	1st half.	1,882	2	0	0	25	10	54	224	164	0	6	131	7	26	0	73	0	0	34	35	0	477	67	0	158	389	1540	224 ·675	1 ·213	2 ·727
		2d ,,	1,578	2	0	0	10	15	95	53	127	0	5	130	27	29	0	67	1	0	30	45	0	307	120	0	152	363				
	Died.....	1st half.	20	1	0	0	0	0	0	2	11	0	1	0	0	0	0	2	0	0	0	0	0	0	1	0	0	2				
		2d ,,	22	0	0	0	0	0	0	5	6	0	0	1	0	2	0	4	0	0	0	0	0	0	3	0	0	1				
1835	Admitted.	1st half.	1,349	1	0	0	4	21	39	17	98	0	4	110	30	25	0	70	0	0	23	37	0	331	47	0	148	344	1554	172 ·200	1 ·158	1 ·994
		2d ,,	1,327	1	0	0	6	14	63	28	52	0	8	80	10	13	0	60	0	0	45	71	0	302	60	0	157	357				
	Died.....	1st half.	25	0	0	0	0	0	2	1	8	0	0	5	1	0	0	4	0	0	0	0	0	0	3	0	0	1				
		2d ,,	6	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	2				
1836	Admitted.	1st half.	1,442	0	0	0	4	15	75	52	101	0	4	82	15	20	0	79	1	0	19	55	1	243	45	0	193	438	1736	165 ·264	1 ·533	2 ·534
		2d ,,	1,427	0	0	0	5	9	72	27	74	0	18	92	19	28	0	67	0	0	56	103	0	277	41	0	169	370				
	Died.....	1st half.	24	0	0	0	0	0	1	1	8	0	0	1	0	0	0	4	0	0	0	0	0	0	4	0	0	5				
		2d ,,	20	0	0	0	0	0	1	1	2	0	0	1	0	2	0	3	0	0	0	0	0	1	0	0	2	7				
1837	Admitted.	1st half.	1,249	1	0	0	10	9	30	36	89	0	3	132	14	26	0	72	2	0	21	132	0	231	19	0	125	297	1628	137 ·100	1 ·433	1 ·965
		2d ,,	983	0	0	0	8	8	27	9	69	0	5	52	5	20	0	50	1	0	30	81	0	216	33	0	105	264				
	Died.....	1st half	14	1	0	0	2	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	2	1	0	1	4				
		2d ,,	18	0	0	0	0	0	0	1	7	0	0	0	0	1	0	5	0	0	0	0	0	0	1	0	0	3				
1838	Admitted.	1st half.	1,158	0	0	0	3	10	10	6	67	0	6	123	13	36	0	78	0	0	19	76	0	254	50	0	103	304	1613	140 ·173	1 ·503	2 ·107
		2d ,,	1,103	0	0	0	3	14	15	24	92	0	4	111	9	21	0	65	0	0	22	83	3	257	40	0	124	216				
	Died, ...	1st half.	13	0	0	0	0	0	0	0	7	0	0	0	0	1	0	2	0	0	0	0	0	0	1	0	0	2				
		2d ,,	21	0	0	0	0	0	0	1	5	0	0	2	0	1	0	8	0	0	0	1	1	1	0	0	1	0				

MYSORE DIVISION.

Table No. 2.—Europeans—Abstract of the preceding Returns, shewing the Total number of Admissions, and Deaths, &c. from 1829 to 1838.

	Admissions and Deaths.	Diseases. Apoplexy.	Atrophy.	Beriberi.	Cholera.	Cutaneous diseases.	Delirium Tremens.	Diarrhœa.	Dysentery.	Elephantiasis.	Fever ephemeral.	,, continued.	,, intermittent.	,, remittent.	Guinea Worm.	Hepatic diseases.	Insanity.	Leprosy.	Ophthalmy.	Rheumatism.	Small pox.	Syphilis &c.	Thoracic diseases.	Ulcer phagedenic.	Wounds & injuries.	Other Complaints.
Aggregate Strength. 15,590.																										
1829 to 1838. Admitted. 1st half	13,252	23	0	0	560	65	208	562	1159	0	36	1151	127	174	0	812	10	0	328	540	1	2031	594	0	1433	3105
1829 to 1838. Admitted. 2d half.	12,173	17	0	0	81	60	272	344	955	0	42	973	83	139	0	706	7	0	421	568	3	2147	521	0	1464	3367
Total..	25,425	40	0	0	641	125	480	906	2114	0	78	2127	210	313	0	1518	17	0	75[illegible]	1108	4	4178	1115	0	2897	6772
Died. .... 1st half	261	7	0	0	82	0	4	8	59	0	1	10	4	5	0	31	0	0	0	0	0	2	18	0	2	28
Died. .... 2d half.	176	4	0	0	10	0	1	11	46	0	0	9	0	7	0	41	0	0	0	2	1	3	13	0	5	23
Total..	437	11	0	0	92	0	5	19	105	0	1	19	4	12	0	72	0	0	0	2	1	5	31	0	7	51
Average annual per centage of sick to strength	163·085	0·256	0	0	4·111	0·801	3·078	5·811	13·559	0	0·500	13·643	1·347	2·007	0	9·929	0·109	0	4·823	7·107	0·025	26·799	7·152	0	18·582	43·438
Do. of deaths to sick treated	1·718	27·500	0	0	14·336	0	1·041	2·097	4·966	0	1·282	0·893	1·901	3·833	0	4·651	0	0	0	0·180	25·000	0·119	2·780	0	0·241	0·753
Do. of deaths to strength.	2·803	0·070	0	0	0·590	0	0·032	0·121	0·673	0	0·006	0·121	0·025	0·076	0	0·461	0	0	0	0·012	0·006	0·032	0·198	0	0·044	0·327

MYSORE DIVISION.

Table No. 3.—Return of sick of the Native Troops, exhibiting the half yearly Admissions and Deaths from the principal diseases, and those which have been either Epidemic or Endemic, during the period of ten years, from 1829 to 1838 inclusive.

Years.			Admissions and deaths.	Apoplexy.	Atrophy.	Beriberi.	Cholera.	Cutaneous diseases.	Delirium Tremens.	Diarrhœa.	Dysentery.	Elephantiasis.	Fever ephemeral.	,, continued.	,, intermittent.	,, remittent.	Guinea worm.	Hepatic diseases.	Insanity.	Leprosy.	Ophthalmy.	Rheumatism.	Small Pox.	Syphilis &c.	Thoracic diseases.	Ulcer phagedenic.	Wounds & Injuries.	Other Complaints.	Average strength each year.	Per centage of sick to strength.	Percentage of deaths to sick treated.	Per centage of deaths to strength.
1829	Admitted.	1st half.	1,771	3	0	0	21	0	0	33	24	0	0	14	634	28	0	3	1	0	43	131	4	86	9	0	140	597	7095	45 ·299	2 ·520	1 ·141
		2d ,,	1,443	2	0	0	3	0	0	36	21	0	0	38	395	7	0	3	2	0	37	140	0	71	11	0	138	539				
	Died.....	1st half.	42	3	0	0	13	0	0	3	1	0	0	0	6	2	0	0	0	0	0	2	2	1	2	0	1	6				
		2d ,,	39	2	0	0	1	0	0	5	1	0	0	1	13	1	0	0	0	0	0	3	0	1	4	0	1	6				
1830	Admitted.	1st half.	1,281	0	0	0	2	0	0	21	11	0	0	53	346	32	22	2	1	0	41	115	2	51	9	0	151	422	6586	38 ·657	2 ·120	0 ·819
		2d ,,	1,265	1	0	0	0	0	0	22	8	0	17	70	231	17	0	1	5	0	30	109	0	49	15	0	132	558				
	Died.....	1st half.	31	0	0	0	1	0	0	1	1	0	0	0	13	0	1	0	0	0	0	4	2	0	0	0	0	8				
		2d ,,	23	1	0	0	0	0	0	3	1	0	0	3	1	2	0	0	0	0	0	1	0	1	2	0	2	6				
1831	Admitted.	1st half.	2,102	2	0	0	169	0	0	125	24	0	108	20	443	31	0	3	6	0	13	143	0	113	12	0	179	711	6204	67 ·843	3 ·326	2 ·256
		2d ,,	2,107	2	0	0	46	0	0	126	26	0	250	17	300	13	0	3	5	0	34	212	0	75	39	0	210	749				
	Died.....	1st half.	81	1	0	0	56	0	0	3	1	0	0	1	3	3	0	1	2	0	0	1	0	0	3	0	3	3				
		2d ,,	59	2	0	0	23	0	0	7	2	0	0	0	5	1	0	0	1	0	0	3	0	3	3	0	1	8				
1832	Admitted.	1st half.	2,249	2	0	0	160	0	0	56	29	0	312	16	267	9	0	5	11	0	28	155	0	56	19	0	196	928	7459	64 ·150	2 ·779	1 ·783
		2d ,,	2,536	0	0	0	17	0	0	54	20	0	500	7	307	17	0	2	8	0	43	134	0	53	548	0	206	620				
	Died.....	1st half.	84	0	0	0	59	0	0	0	5	0	6	2	2	2	0	0	0	0	0	3	0	1	2	0	1	1				
		2d ,,	49	0	0	0	9	0	0	1	3	0	1	3	5	5	0	3	0	0	0	2	0	0	6	0	0	11				
1833	Admitted.	1st half.	2,530	1	0	0	164	0	0	65	26	0	544	8	340	30	0	0	3	0	52	116	4	54	297	0	207	619	7291	70 ·456	2 .822	1 ·988
		2d ,,	2,607	0	0	0	26	0	0	55	33	0	567	84	433	16	0	4	6	0	78	141	1	153	35	0	273	702				
	Died.....	1st half.	114	1	0	0	64	0	0	5	2	0	4	1	5	5	0	0	0	0	1	7	1	0	12	0	0	6				
		2d ,,	31	0	0	0	8	0	0	2	1	0	2	1	2	0	0	0	0	0	0	0	1	1	6	0	1	6				
1834	Admitted.	1st half.	3,415	0	15	0	3	116	1	385	116	0	508	260	494	78	1	5	1	0	23	216	21	178	42	0	335	617	5980	100 ·253	1 .871	1 ·889
		2d ,,	2,622	1	23	1	2	172	0	53	45	0	316	136	703	69	1	3	5	0	63	167	5	62	52	0	150	593				
	Died.....	1st half.	58	0	0	0	1	0	0	6	14	0	3	7	8	5	0	1	2	0	0	0	1	0	5	0	0	5				
		2d ,,	55	0	1	0	0	0	0	8	6	0	0	4	10	2	0	0	0	0	0	2	0	0	2	0	0	20				
1835	Admitted.	1st half.	3,216	0	10	1	1	156	2	47	46	0	305	113	1157	46	9	3	7	0	121	169	4	68	32	0	242	677	8053	74 ·903	1 ·492	1 ·117
		2d ,,	2,816	0	6	1	0	264	1	37	29	1	181	61	1003	48	0	3	11	0	59	216	0	48	63	1	242	541				
	Died.....	1st half.	54	0	1	0	1	0	0	1	5	0	3	4	13	7	0	0	1	0	0	1	0	2	5	0	0	10				
		2d ,,	36	0	2	1	0	0	0	3	2	0	2	3	6	5	0	0	0	0	0	4	0	0	1	0	0	7				
1836	Admitted.	1st half.	2,788	0	5	0	2	117	1	79	21	0	184	102	682	330	4	2	3	0	55	253	0	43	55	0	204	646	7617	68 ·767	1 .355	0 ·932
		2d ,,	2,450	0	6	1	0	188	0	26	24	0	159	60	459	327	2	5	6	0	139	222	0	54	35	1	159	577				
	Died.....	1st half.	40	0	1	0	1	0	0	4	3	0	0	3	9	0	0	0	0	0	0	5	0	0	8	0	0	6				
		2d ,,	31	0	1	0	0	0	0	0	2	0	2	4	5	5	0	0	0	0	0	2	0	0	4	0	0	6				
1837	Admitted.	1st half.	2,885	1	2	0	2	109	1	241	54	0	120	116	777	146	29	4	5	0	46	168	1	69	39	0	263	692	7073	69 ·786	1 .600	1 ·116
		2d ,,	2,051	0	16	0	5	173	1	42	18	0	145	25	430	62	8	2	7	0	84	199	2	61	72	0	194	505				
	Died.. ..	1st half	49	0	0	0	2	0	0	5	3	0	1	3	11	12	0	0	0	0	0	2	0	0	3	0	1	6				
		2d ,,	30	0	2	0	1	0	1	1	1	0	0	1	5	2	0	2	0	0	0	2	0	0	3	0	0	9				
1838	Admitted.	1st half.	2,438	2	4	1	24	133	2	109	35	0	229	17	558	19	88	3	4	0	39	192	17	80	81	0	217	581	6658	72 ·724	1 .755	1 ·276
		2d ,,	2,404	0	9	0	32	256	1	85	29	1	92	13	607	25	6	3	7	0	69	242	2	50	152	0	164	559				
	Died.....	1st half.	41	2	2	0	7	0	0	2	4	0	0	1	5	1	0	0	0	0	0	0	1	0	7	0	1	8				
		2d ,,	44	0	1	0	15	0	0	2	7	0	0	2	6	0	0	0	0	0	0	0	0	0	3	0	1	7				

MYSORE DIVISION.

Table No. 4.—Natives—Abstract of the preceding Returns, shewing the Total number of Admissions, and Deaths, &c. from 1829 to 1838.

		Admissions and Deaths.	Apoplexy.	Atrophy.	Beriberi.	Cholera.	Cutaneous diseases.	Delirium Tremens.	Diarrhœa.	Dysentery.	Elephantiasis.	Fever ephemeral.	" continued.	" intermittent.	" remittent.	Guinea Worm.	Hepatic diseases.	Insanity.	Leprosy.	Ophthalmy.	Rheumatism.	Small pox.	Syphilis &c.	Thoracic diseases.	Ulcer phagedenic.	Wounds & injuries.	Other Complaints.
Aggregate Strength. 70,016.																											
1829 to 1838. Admitted.	1st half	24,675	11	36	2	548	631	7	1161	386	0	2310	719	5698	749	153	30	42	0	461	1658	53	798	595	0	2134	6193
	2d half.	22,301	6	60	3	131	1053	3	536	253	2	2227	511	4868	601	17	29	62	0	636	1782	10	676	1022	2	1868	5943
	Total..	46,976	17	96	5	679	1684	10	1697	639	2	4537	1230	10,566	1350	170	59	104	0	1097	3440	63	1474	1617	2	4002	12,136
Died.	1st half	594	7	4	0	205	0	0	30	39	0	17	22	75	37	1	[illegible]	5	0	1	25	7	4	47	0	7	59
	2d half.	397	5	7	1	57	0	1	32	26	0	7	22	58	23	0	5	1	0	0	19	1	6	34	0	6	86
	Total..	991	12	11	1	262	0	1	62	65	0	24	44	133	60	1	7	6	0	1	44	8	10	81	0	13	145
Average annual per centage of sick to strength		67·093	0·021	0·137	0·007	0·969	2·405	0·014	2·425	0·912	0·002	6·479	1·756	15·090	1·926	0.242	0·084	0·148	0	1·566	4·913	0·089	2·105	2·309	0·002	5.715	17·761
Do. of deaths to sick treated		2·109	70·588	11·458	20·0	38·586	0	10·0	3·653	10·172	0	0·528	3·577	1·258	4·444	0·588	11·864	5·769	0	0·091	1·279	12·698	0·678	5·009	0	0·324	1·165
Do. of deaths to strength.		1·415	0·017	0·015	0·001	0·374	0	0·001	0·088	0·092	0	0·034	0·062	0·189	0·085	0·001	0·009	0·008	0	0·001	0·062	0·011	0·014	0·115	0	0·018	0·207

MYSORE DIVISION.

No. 5.—Table exhibiting the Number of Admissions and Deaths, from each Class of Disease, for 5 years.

EUROPEAN TROOPS.

CLASSES.	DISEASES.	From 1834 to 1838. Aggregate strength 8,069. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Admissions and Deaths from each class of Disease. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Total admissions from each class.	Total deaths from each class.	Average per centage of sick to strength.	Average per centage of deaths to sick.
Fevers	Febris ephemera	23	1	40	0								
	,, intermittens quotid.	69	1	62	0	813	10	686	11	1499	21	18 ·577	1 ·400
	,, tertiana	10	0	8	0								
	,, remittens	133	2	111	6								
	,, continua	578	6	465	5								
	Cholera	46	2	32	0	46	2	32	0	78	2	0 ·966	2 ·561
Diseases of the abdominal viscera.	Dysenteria acuta	514	34	407	19	519	35	414	20	933	55	11 ·562	5 ·894
	,, chronica	5	1	7	1								
	Diarrhœa	335	4	141	8								
	Colica	55	0	46	0								
	Obstipatio	63	0	30	1								
	Hœmorrhois	71	0	62	0	658	8	393	12	1051	20	13 ·025	1 ·902
	Enteritis	0	0	2	0								
	Peritonitis	50	4	42	3								
	Gastritis	0	0	0	0								
	Dyspepsia	84	0	70	0								
	Hepatitis acuta	329	11	279	19	372	13	309	23	681	36	8 ·439	5 ·286
	,, chronica	43	2	30	4								
Diseases of the lungs and heart.	Catarrhus	132	3	176	1								
	Asthma	3	0	7	0								
	Phthisis pulmonalis	6	3	5	2								
	Hœmoptysis	3	1	1	0	228	10	294	4	522	14	6 ·469	2 ·682
	Pleuritis	0	0	0	0								
	Pneumonia	74	3	93	1								
	Carditis	1	0	0	0								
	Palpitatio	6	0	7	0								
	Dyspnœa	3	0	5	0								
Diseases of the brain.	Apoplexia	4	2	3	0								
	Epilepsia	12	1	19	0								
	Paralysis	13	1	25	3								
	Cephalalgia	91	1	67	2								
	Phrenitis	0	0	0	0								
	Ictus solis	0	0	0	0	331	9	388	6	719	15	8 ·910	2 ·086
	Amentia	0	0	0	0								
	Mania	3	0	2	0								
	Hydrophobia	0	0	0	0								
	Delirium tremens	60	3	96	1								
	Ebrietas	148	1	176	0								
Diseases of the eye.	Morbi oculorum.	116	0	183	0	116	0	183	0	299	0	3 ·705	0 ·0
Do. skin.	,, cutis	65	0	60	0	65	0	60	0	125	0	1 ·549	0 ·0
Eruptive Fevers.	Variola	1	0	3	1								
	Varicella	5	0	1	0	25	0	11	1	36	1	0 ·446	2 ·777
	Rubeola	3	0	0	0								
	Scarlatina	0	0	0	0								
	Erysipelas	16	0	7	0								
Dropsies.	Anasarca	21	0	8	2								
	Ascites	0	0	0	0	21	0	8	2	29	2	0 ·359	6 ·896
	Hydrothorax	0	0	0	0								
Rheumatic affections.	Rheumatismus acutus	316	0	328	0								
	,, chronicus	19	0	45	1	335	0	373	1	708	1	8 ·774	0 ·141
	Neuralgia	0	0	0	0								
	Odontalgia	0	0	0	0								
Venereal affections.	Syphilis primitiva	681	1	614	0								
	,, consecutiva	25	1	17	0								
	Gonorrhœa	716	0	592	0	1536	2	1359	2	2895	4	35 ·878	0 ·138
	Hernia humoralis	90	0	109	1								
	Strictura urethræ	24	0	27	1								
Specific diseases.	Atrophia	0	0	0	0								
	Beriberi	0	0	0	0								
	Elephantiasis	0	0	0	0								
	Lepra	0	0	0	0								
	Dracunculus	0	0	0	0	2	0	8	0	10	0	0 ·123	0 ·0
	Ulcus phagedenicum	0	0	0	0								
	Scrophula	2	0	7	0								
	Scorbutus	0	0	1	0								
Punishment.	Punitus	0	0	1	0	0	0	1	0	1	0	0 ·012	0 ·0
Wounds and injuries	Practura	31	0	27	2								
	Luxatio	15	0	20	0								
	Subluxatio	9	0	9	0								
	Vulnus sclopitorum	18	0	8	1	727	1	707	3	1434	4	17 ·771	0 ·278
	,, incisum	127	1	140	0								
	Contusio	523	0	502	0								
	Ambustio	4	0	1	0								
Other diseases including, Phlogosis, ulcus, &c.		1286	6	1192	2	1286	6	1192	2	*2478	†8	30 ·710	0 ·322
	Total	7080	96	6418	87	7080	96	6418	87	13,498	183	167 ·282	1 ·355

Average per centage of deaths to strength during these five years, has been 2·267.

* Of this number were

Phlogosis	547	1
Do. do. Buho simplex	289	0
Do. do. Ulcus	659	1
	1495	2

† The deaths under this head include besides those in the preceding note, one from aneurisma, one from cynanche, one from hæmatemises and three not particularized.

MYSORE DIVISION.

No. 6.—Table exhibiting the Number of Admissions and Deaths, from each Class of Disease, for 5 years.

NATIVE TROOPS.

CLASSES	DISEASES.	From 1834 to 1838. Aggregate strength 35,381. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Admissions and Deaths from each class of Disease. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Total admissions from each class.	Total deaths from each class.	Average per centage of sick to strength.	Average per centage of deaths to sick.
Fevers.	Febris ephemera	1316	7	893	4								
	,, intermittent quotid......	3672	43	2981	29	6135	96	4921	64	11,356	160	32 ·096	1 ·408
	,, tertiana....	190	3	221	3								
	,, remittens..	619	25	531	14								
	,, continua....	608	18	295	14								
	Cholera........	32	12	39	16	32	12	39	16	71	28	0 ·200	39 ·436
Diseases of the abdominal viscera.	Dysenteria acuta..........	251	24	115	11	272	29	115	18	417	47	1 ·178	11 ·270
	,, chronica..	21	5	30	7								
	Diarrhœa.......	861	18	243	14								
	Colica........	105	1	74	1								
	Obstipatio......	72	0	48	3								
	Hæmorrhois....	38	0	33	0	1295	24	585	30	1881	54	5 ·321	2 ·866
	Enteritis........	0	0	1	1								
	Peritonitis......	16	2	21	3								
	Gastritis........	0	0	0	0								
	Dyspepsia......	203	3	169	8								
	Hepatitis acuta.	12	0	11	2	17	1	16	2	33	3	0 ·093	9 ·090
	,, chronica..	5	1	5	0								
Diseases of the lungs and heart.	Catarrhus......	139	8	262	5								
	Asthma........	49	4	64	2								
	Phthisis pulmonalis.........	6	2	6	2								
	Hœmoptysis.....	2	1	4	1	249	28	374	13	623	41	1 ·760	6 ·581
	Pleuritis.......	0	0	0	0								
	Pneumonia.....	34	8	15	0								
	Carditis........	0	0	0	0								
	Palpitatio.......	3	0	2	0								
	Dyspnœa.......	16	5	21	3								
Diseases of the brain.	Apoplexia.......	3	2	1	0								
	Epilepsia.......	12	0	6	0								
	Paralysis.......	21	0	19	5								
	Cephalalgia....	135	2	91	0								
	Phrenitis.......	0	0	0	0								
	Ictus solis......	0	0	0	0	199	8	159	6	358	14	1 ·011	3 ·910
	Amentia........	3	0	12	0								
	Mania.........	17	3	21	0								
	Hydrophobia...	1	1	0	0								
	Delirium tremens.........	7	0	3	1								
	Ebrietas........	0	0	0	0								
Diseases of the eye.	Morbi oculorum........	284	0	414	0	284	0	414	0	698	0	1 ·972	0 ·0
Do. skin.	,, cutis......	631	0	1053	0	631	0	1053	0	1684	0	4 ·759	0 ·0
Eruptive fevers.	Variola.........	43	2	9	0								
	Varicella........	339	0	84	0								
	Rubeola.........	51	0	7	0	438	2	106	0	544	2	1 ·537	0 ·367
	Scarlatina......	0	0	0	0								
	Erysipelas.......	5	0	6	0								
Dropsies.	Anasarca.......	23	8	31	10								
	Ascites.........	9	2	2	2	32	10	33	12	65	22	0 ·183	33 ·846
	Hydrothorax...	0	0	0	0								
Rheumatic affections.	Rheumatismus acutus........	692	6	659	6								
	,, chronicus.	316	2	387	4	1016	8	1048	10	2064	18	5 ·833	0 ·872
	Neuralgia......	0	0	0	0								
	Odontalgia......	8	0	2	0								
Venereal affections.	Syphilis primitiva...........	212	0	121	0								
	,, consecutiva	43	2	25	0								
	Gonorrhœa.....	85	0	65	0	438	2	273	0	711	2	2 ·009	0 ·281
	Hernia humoralis............	90	0	61	0								
	Strictura urethræ.........	8	0	1	0								
Specific diseases.	Atrophia.......	36	4	60	7								
	Beriberi........	2	0	3	1								
	Elephantiasis...	0	0	2	0								
	Lepra..........	0	0	0	0								
	Dracunculus....	131	0	17	0	194	4	102	9	296	13	0 ·836	4 ·391
	Ulcus phagedenicum........	0	0	2	1								
	Scrophula......	20	0	12	1								
	Scorbutus......	5	0	6	0								
Punishment.	Punitus........	6	0	3	0	6	0	3	0	9	0	0 ·025	0 ·0
Wounds and injuries.	Fractura........	16	0	21	0								
	Luxatio........	4	0	9	0								
	Subluxatio......	8	0	8	0								
	Vulnus sclopitorum........	42	1	12	0	1161	2	1009	2	2170	4	6 ·133	0 ·184
	,, incisum...	278	1	256	0								
	Contusio........	812	0	703	2								
	Ambustio......	1	0	0	0								
Other diseases including, Phlogosis, Ulcus, &c.............		2043	16	2059	14	2043	16	2059	14	*4102	†30	11 ·593	0 ·731
	Total....	14,742	242	12,343	196	14,742	242	12,343	196	27,085	438	76 ·552	1 ·617

Average per centage of deaths to strength during these five years, has been 1·237.

* Of this number were

Phlogosis..............	2145	3
Do. do. Ulcus..........	1095	5
Do. do. Bubo simplex..	250	1
	3490	9

† The deaths under this head in clude besides those in the preced ing note, seven from tetanus, fo from icterus, one from dysuria, o from splenitis, one from cynanch one from tympanitis, one fr morbus coxarius, and five not p ticularized.

As the general table No. 1, for Europeans, includes the sick of the Hussars and H. M.'s Infantry regiment, and also the H. C.'s Artillery at Bangalore, the following have been framed to exhibit the admissions and deaths in each separately, for the purpose of comparison, as regards the most important diseases. The table for the Hussars comprises a period of nine, and that for H. M.'s Infantry regiment eight complete years, when the same regiment occupied the station during a period of 12 months; those for the Horse and Foot Artillery embrace a longer period (11 and 12 years respectively) in order to obtain larger numbers, and so to exhibit more accurate inferences, the numerical strength not being above 200 men.

Tables No. 11 and 12.	Hussars 1830 to 1838. Strength 5771. Ad.	Died.	Per centage of sick to strength.	Per centage of deaths to sick treated.	Infantry 1831 to 1838. Strength 5778. Ad.	Died.	Per centage of sick to strength.	Per centage of deaths to sick treated.
Fevers	1029	9	17· 830	0· 874	1369	16	23· 693	1· 168
Cholera	76	18	1· 316	23· 684	200	58	3· 461	29· 000
Diarrhœa	90	4	1· 559	4· 444	553	11	9· 570	1· 989
Dysenteria acuta	909	27	15· 751	2· 970	753	45	13· 032	5· 976
,, chronica	25	0	0· 433	0	16	3	0· 276	18· 750
Hepatitis acuta	649	35	11· 245	5· 392	474	17	8· 203	3· 586
,, chronica	24	2	0· 415	8· 333	97	5	1· 678	5· 154
Catarrhus	201	0	3· 482	0	432	1	7· 476	0· 231
Phthisis pulmonalis	8	7	0· 138	87· 500	25	11	0. 432	44· 000
Hœmoptysis	2	2	0· 034	100· 000	4	0	0· 069	0
Pneumonia	168	4	2· 911	2· 380	158	4	2· 731	2· 531
Apoplexia	12	4	0· 207	33· 333	18	5	0· 311	27· 777
Epilepsia	35	1	0· 606	2· 857	28	1	0· 481	3· 571
Mania	3	0	0· 051	0	10	0	0· 173	0
Paralysis	41	5	0· 710	12· 195	21	1	0· 363	4· 761
Delirium tremens	32	2	0· 554	6· 250	90	5	1· 557	5· 555
Rheumatismus acutus	319	0	5· 527	0	449	0	7· 770	0
,, chronicus	40	0	0· 693	0	92	1	1· 592	1· 086
Other diseases	6097	29	105· 648	0· 475	5442	21	94· 184	0· 385
Total..	9760	149	169· 121	1· 526	10,231	205	177· 068	2· 003

Hussars, per centage of deaths to strength.......2·581.
H. M.'s Infantry, do. do...........3·547.
Total deaths, per centage to aggregate strength....3·065.

Tables No. 13 and 14.	H. Artillery 1829 to 1842. Strength 1246. Ad.	Died.	Per centage of sick to strength.	Per centage of deaths to sick treated.	F. Artillery 1830 to 1841. Strength 1111. Ad.	Died.	Per centage of sick to strength.	Per centage of deaths to sick treated.
Fevers	226	0	18· 138	0	190	3	17· 101	1· 578
Cholera	6	1	0· 481	16· 666	10	2	0	20· 000
Diarrhœa	110	1	8· 828	0· 909	133	2	11· 971	1· 503
Dysenteria acuta	78	7	6· 260	8· 974	111	9	9· 991	8· 108
,, chronica	9	0	0· 722	0	3	0	0· 270	0
Hepatitis acuta	83	5	6· 661	6· 024	134	2	12· 061	1· 492
,, chronica	16	1	1· 284	6· 250	16	1	1· 440	6· 250
Catarrhus	103	0	8· 266	0	30	1	2· 700	3· 333
Phthisis pulmonalis	0	0	0	0	0	0	0	0
Hœmoptysis	0	0	0	0	0	0	0	0
Pneumonia	18	2	1· 444	11· 111	32	0	2· 880	0
Apoplexia	1	1	0· 080	100· 000	4	2	0· 360	50· 000
Epilepsia	1	1	0· 080	100· 000	5	0	0· 450	0
Mania	1	0	0· 080	0	1	0	0· 090	0
Paralysis	6	0	0· 481	0	3	1	0· 270	33· 333
Delirium tremens	9	1	0· 722	11· 111	26	2	2· 340	7· 692
Rheumatismus acutus	97	0	7· 784	0	105	0	9· 450	0
,, chronicus	26	0	2· 086	0	27	1	2· 430	3· 703
Other diseases	1328	3	106· 581	0· 225	1232	0	110· 891	0
Total..	2118	23	169· 983	1· 085	2062	26	185· 598	1· 260

Horse Artillery, per centage of deaths to strength...1·845.
Foot Artillery, do. do............2·340.
Total deaths, per centage to aggregate strength......2·078.

MYSORE DIVISION.

No. 15.—*Table exhibiting the sickness and mortality amongst the OFFICERS of H. M.'s regiments (Hussars and Infantry) at Bangalore, during a period of eight years.*

CLASSES	DISEASES.	Hussars 1830 to 1838. Strength 232. Ad.	Hussars Dd.	Infantry 1831 to 1838. Strength 289. Ad.	Infantry Dd.	Aggregate strength 521. Total Admitted.	Aggregate strength 521. Total. Died.	Per centage of sick to strength.	Per centage of deaths to sick treated.
Fevers.	Febris intermit.. quotid.........	2	0	11	0	206	1	39 ·539	0 ·485
	,, remittens...	10	0	3	0				
	,, com. cont..	77	0	103	1				
	Cholera....... ..	1	0	5	1	6	1	1 ·151	16 ·666
Diseases of the abdominal viscera.	Diarrhœa	37	0	33	0	350	2	67 ·178	0 ·571
	Dysenteria acuta et chroniea.	46	0	21	0				
	Obstipatio......	41	0	9	0				
	Hœmorrhois	6	0	7	0				
	Dyspepsia......	49	0	30	0				
	Icterus..	0	0	2	0				
	Hepatitis.......	33	0	36	2				
Diseases of the lungs.	Catarrhus	70	0	59	0	147	4	28 ·214	2 ·721
	Asthma	10	0	0	0				
	Hœmoptysis....	1	1	1	0				
	Pneumonia.....	3	1	2	1				
	Palpitatio......	0	0	1	1				
Diseases of the brain.	Apoplexia.......	0	0	1	0	9	1	1 ·727	11 ·111
	Epilepsia.	0	0	0	0				
	Paralysis.......	1	0	2	0				
	Concussio......	0	0	2	0				
	Delirium Tremens.........	1	0	2	1				
Rheumatic affections.	Rheumatismus	46	0	34	0	80	0	15 ·355	0 ·000
Venereal affections.	Syphilis primitiva...........	12	0	13	0	105	0	20 ·153	0 ·000
	Gonorrhœa.....	19	0	41	0				
	Hernia humoralis...........	2	0	7	0				
	Strictura urethræ..........	4	0	7	0				
Diseases of the eye.	Morbi oculorum	6	0	5	0	11	0	2 ·111	0 ·000
Do. skin.	,, cutis......	2	0	8	0	10	0	1 ·919	0 ·000
	Other diseases..	159	0	221	1	380	*1	72 ·936	0 ·263
	Total....	638	2	666	8	1304	10	250 ·287	0 ·766

Percentage of deaths to aggregate strength, 1·919.

Hussars, per centage of deaths to strength, 0·862. Infantry, do. 2·768.

* A severe contusion.

MYSORE DIVISION.

No. 16.—*Table exhibiting the sickness and mortality amongst the WOMEN of H M.'s regiments (Hussars and Infantry) at Bangalore, during the same period.*

CLASSES.	DISEASES.	Hussars 1830 to 1838. Strength 846. Ad.	Dd.	Infantry 1831 to 1838. Strength 587. Ad.	Dd.	Aggregate strength 1433. Total Admitted.	Total Died.	Per centage of sick to strength.	Per centage of deaths to sick treated.
Fevers	Febris int. quot	1	0	4	0				
	,, remittens....	14	2	0	0	263	6	18 ·353	2 ·281
	,, com cont....	72	0	172	4				
	Cholera........	25	5	22	4	47	9	3 ·279	19 ·148
Diseases of the Abdominal viscera	Diarrhœa	4	0	25	0				
	Dysenteria.	36	4	66	6				
	Colica..........	2	0	20	0				
	Dyspepsia......	5	0	17	0				
	Obstipatio......	5	0	24	0	288	14	20 ·097	4 ·861
	Splenitis........	1	0	1	0				
	Enteritis.	7	1	3	0				
	Gastritis.	3	0	1	0				
	Hepatitis.......	27	3	41	0				
Diseases of the Lungs.	Catarrhus..	22	1	28	1				
	Asthma........	6	0	0	0	64	4	4 ·466	6 ·250
	Phthisis pulmon	1	1	1	1				
	Pneumonia.....	3	0	3	0				
Diseases of the Brain.	Apoplexia.	0	0	2	2				
	Epilepsia.......	2	0	0	0				
	Paralysis.......	2	1	3	0				
	Hysteria........	1	0	3	0	15	5	1 ·046	33 ·333
	Tetanus........	1	1	0	0				
	Delirium Tremens.........	1	1	0	0				
Eruptive fevers......	Variola	1	1	1	0	3	1	0 ·209	33 ·333
	Varicella.	1	0	0	0				
	Anasarca	2	1	3	1	5	2	0 ·348	40 ·000
	Rheumatismus,.	11	1	12	0	23	1	1 ·605	4 ·347
	Febris Puer....	1	1	0	0	8	1	0 ·558	12 ·500
	Menorrhogia...	1	0	6	0				
	Morbi oculorum	13	0	73	0	86	0	6 ·001	0 ·090
	,, Cutis.	1	0	1	0	2	0	0 ·139	0 ·000
	Other diseases..	44	2	127	1	171	3	11 ·933	1 ·754
	Total..	316	26	659	20	975	46	68 ·039	4 ·717

Per centage of deaths to aggregate strength, 3·210.

Hussars, Per centage of deaths to strength, 3·073. Infantry do. 3·408.

MYSORE DIVISION.

No. 17.—*Table exhibiting the sickness and mortality amongst the CHILDREN of H. M.'s regiments (Hussars and Infantry) at Bangalore, during the same period.*

Classes.	Diseases.	Hussars 1830 to 1838. Strength 1356. Ad.	Hussars Dd.	Infantry 1831 to 1838. Strength 1003. Ad.	Infantry Dd.	Aggregate strength 2359. Total Admitted.	Aggregate strength Total Died.	Per centage of sick to strength.	Per centage of deaths to sick treated.
Fevers..	Febris intermit. quotid......	3	0	8	1	767	24	32 ·513	3 ·129
	,, remittens...	35	4	3	0				
	,, com. cont..	509	13	209	6				
	Cholera.........	35	8	17	13	52	21	2 ·204	40 ·384
Diseases of the abdominal viscera.	Diarrhœa......	45	2	66	8	448	60	18 ·991	13 ·392
	Dysenteria.....	230	23	82	18				
	Marasmus......	2	2	5	5				
	Colica..........	0	0	12	1				
	Hepatitis.......	3	1	3	0				
Diseases of the lungs.	Cynanche......	21	2	6	0	349	15	14 ·794	4 ·298
	Catarrhus......	206	3	106	7				
	Phthisis pulmonalis..........	0	0	1	1				
	Pneumonia.....	3	2	5	0				
	Pertussis.......	0	0	1	0				
Diseases of the brain.	Convulsio......	32	17	7	6	62	40	2 ·628	64 ·516
	Epilepsia.......	2	1	0	0				
	Hydrocephalus.	0	0	18	14				
	Tetanus........	0	0	2	2				
	Chorea.........	0	0	1	0				
Eruptive Fevers.	Variola.........	18	2	11	6	289	26	12 ·250	9 ·000
	Varicella.......	29	0	21	0				
	Rubeola.........	117	1	93	17				
	Dentitio........	46	3	6	3	108	7	4 ·578	6 ·481
	Vermes........	41	1	15	0				
Diseases of the eye.	Morbi oculorum.	335	0	544	0	879	0	37 ·261	0
Do. skin.	,, cutis......	196	0	22	0	218	0	9 ·241	0
	Other diseases..	190	0	128	1	318	*1	13 ·480	0 ·314
	Total....	2098	85	1392	109	3490	194	147· 944	5 ·558

Per centage of deaths to aggregate strength, 8·223.

Hussars, per centage of deaths to strength, 6·268. Infantry, do. 10·867.

* A severe burn.

MYSORE DIVISION.

Table shewing the number of persons successfully vaccinated, from 1829 *to* 1838 *inclusive.*

DISTRICT OR STATIONS.	Class and sex of Patients.						Total vaccinated.		REMARKS.
	Christians.		Hindoos.		Mahomedans.				
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	
Bangalore	45	35	9,264	7,014	121	88	9,430	7,137	
Seringapatam*	12	18	429	440	137	114	578	572	*Embraces a period of 2 years viz. 1829 and 1830, at this station.
Mysore Province	153	130	27,674	24,200	1,718	1,398	29,545	25,728	
Grand Total	210	183	37,367	31,654	1,976	1,600	39,553	33,437	

Number of vaccinators employed have been 1st class, 3, and 2d class, 25.

APPENDIX.

List of fruits, grains and vegetables, the produce of the province of Mysore.

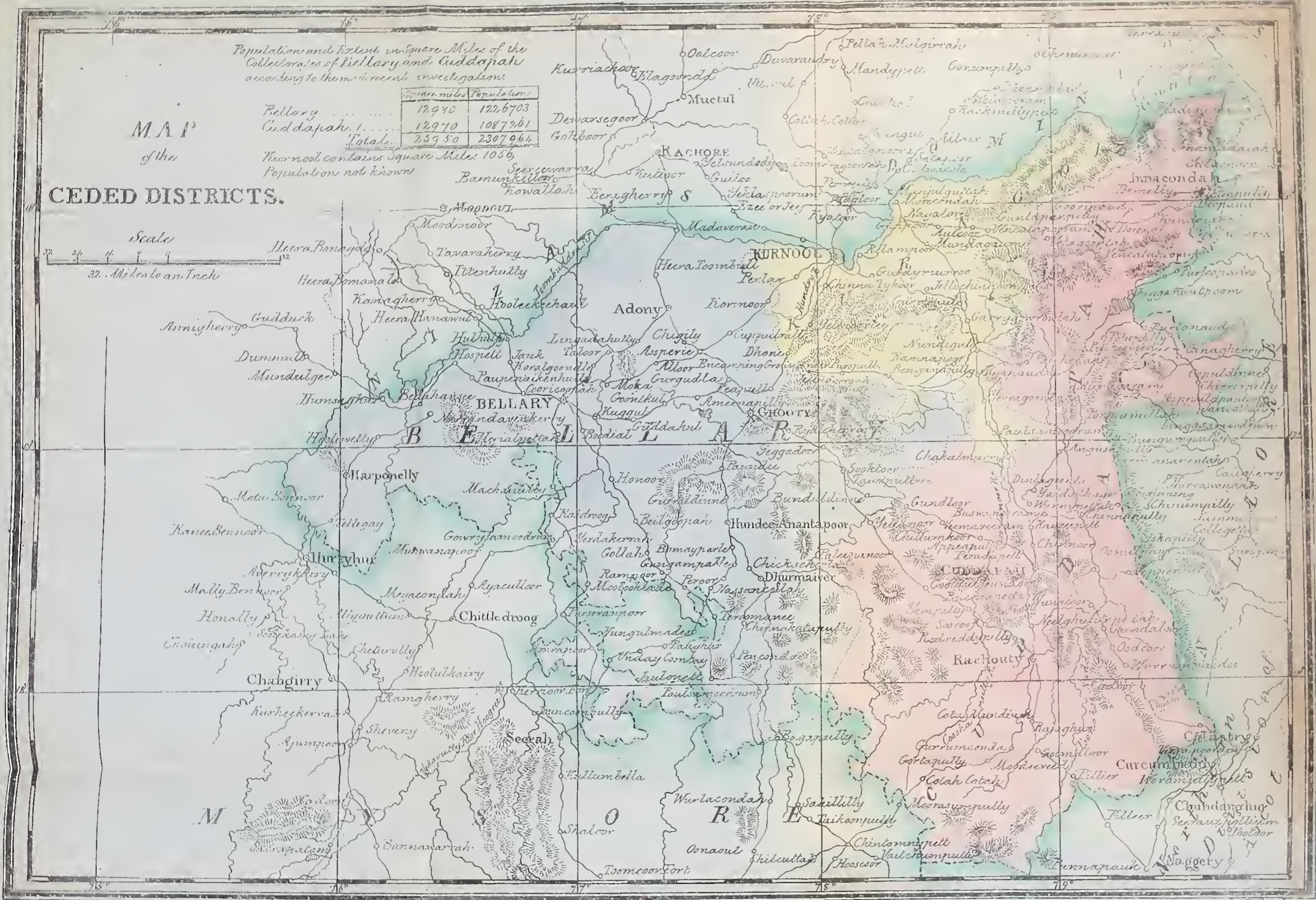
CANARESE.	ENGLISH.
Untoo Toghurree.	A species of dholl.
Cumboo.	Cumboo.
Harka.	A species of rye.
Hurry Jolah.	Black Indian corn.
Yennay garroo Jolah.	White do.
Mukkah Jolah.	Yellow do.
Vugaroo Jolah.	Red do.
Samay.	Millet 1st Sort.
Hedgeunnay,	Do. 2nd do.
Navoonay.	Italian panicle.
Hoorooly.	Madras horse gram.
Curray Hoorooly.	Black do.
Hoochelloo.	Oriental sesamum.
Hoochelloo.	Inferior do.
Ullay Suntha.	A species of gram.
Hesroo.	Pigeon, or green gram.
Woothoo.	Variety of do.
Umbuttoo.	Inferior do.
Kuddlay.	Bengal horse gram.
Pullavullic Kubboo.	Varieties of sugar cane.
Rustalie Kubboo.	
Kurrag Kubboo.	
Chitta Busward Kubboo.	
Chagnee Kubboo.	
Murrah Kubboo.	
Chitta Urralloo.	Small castor seed.
Murra Urralloo.	Large do.
Balligunnah Urralloo.	Jungle do.
Sassavay.	Mustard seed.
Lamunchabay.	Smelling, kuskus root.
Koossumnah beezah.	Safflower seed.
Dlmbbah Uvaray.	Red Indian bean.
Ulsee Uvaray.	Creeping do.
Chinnagunnah Uoaray.	Garden do.
Gothee.	Wheat.
Ilpay Urralloo.	Ilpay oil seed.
Vungah Urralloo.	Soap nut.
Bayvinah Urralloo.	Do.
Buddamee.	Country almond.
Sopoo.	Anise seed.
Wovoo.	Bishop's weed, seed.
Gugginee Gudda.	Carrot.

Shavintagahoo.	
Cothamarree beezah.	Coriander seed.
Geerahgah beezah.	Cummin do.
Suppah Uggahsa beezah.	Dill do.
Mentha.	Fenugreek.
Beeloola.	Garlic.
Hussee Soontic.	Green ginger.
Unjoor.	Grapes.
Nimbay Unnoo.	Lemons.
Murgah.	Mint.
Kurrah Koye.	
Nellee Koye.	Country gooseberry.
Erolu.	Onion.
Mensinah Koye.	Chilly.
Ipillee.	Long pepper.
Nagpaullah.	Croton nut.
Ullahdah Unnoo.	Pomegranate fruit.
Kush kuppay.	Poppy heads.
Nagahthallee.	Garden rue.
Cappoor Elley.	Camphor leaf or sage.
Salamisree.	Salep.
Vudjay.	Sweet flag.
Hoonsay Unnoo.	Tamarind.
Kurray Oombuttay.	Stramonium.
Arrsienah.	Turmeric.
Bunghee Sopoo.	Leaves of the hemp.
Veelathellay.	Betel leaf.
Uddikay.	Betel nut.
Sunnaboo.	Hemp.
Boothe Koombleekaie.	Common pumpkin.
Koomblee Kaie.	Sweet, or red pumpkin.
Butthenee Kaie.	Brinjal.
Ahgullah Kaie.	Bitter cucumber.
Sorah kaie.	Pumpkin, wild.
Goree kaie.	Long fruit.
Benda kaie.	Hibiscus esculentus.
Puddavullah Kaie.	Snake gourd.
Noghee Kaie.	Horse radish.
Ugheessee Kaie.	Gourd.
Southa Kaie.	Cucumber.
Ghennoosoo Gudda.	Sweet potatoes.
Hoorloo Gudda.	Round potatoes.
Udwee Ghennoosoo.	Yam.
Mahvinah Unnoo.	Mangoe.
Balay Unnoo.	Plantain.
Kittellee Unnoo.	Orange.

Chokatha.	Pumplemose.
Thaingheenee Kaie.	Cocoanut.
Moollinghee.	Radish.
Kuddlao Kaie.	Earth nuts.
Thoopathaheera Kaie.	
Nusgoonie Kaie.	Cowitch.
Puttannee.	Peas.
Cuntha Gheddday.	Country yam.
Unnoo Ulsoo.	Pine apple.
Punnareloo Unnoo.	
Sabee Unnoo.	Guava.
Billvapathee Unnoo.	Billumby.
Cumblie Unnoo.	Mulberry.
Echulloo Unnoo.	Date.
Jumboo Narralie Unnoo.	Rose apple.
Kull Ungadie.	Common melon.
Gaie Beezah.	Cashoo nut.
Ullsanah Unnoo.	Jack fruit.
Elcha Unoo.	A species of blackberry.
Pekun Koye.	Acute angled cucumber.
Kurbooze.	Water melon.
Purringhee Unnoo.	Pappaie fruit.
Seethapulloo Unnoo.	Custard apple.
Ram pulloo.	Bullocks heart.
Bellada Unnoo.	Wood apple.
Shendah.	Toddy.
Googullah.	Bdellium.
Aseem.	Opium.
Hiudlay.	Cotton.
Hogay Suppoo.	Tobacco.
Boondoo Beeza.	Coffee.

Table shewing the seasons in which several of the crops are sown and reaped.

Names of Grain.	Months in which the seed is sown.	Harvest months.
Arakee	August	Dec. and Jan.
Bengal Gram	November	March
Black Gram	June	November
Buller	August	February
Burragay	October	December
Chillies	October	December
Cotton	November	April
Cummin seed	Jan. and Feb.	Feb. & March
Gingely Oil	March	September
Ginger	May	October
Green Gram	June	November
Hemp	July and Aug.	Dec. and Jan.
Horse Gram	Sept. and Oct.	Feb. & March
Jonnooloo red	June	November
Do. white	October	March
Mustard	August	October
Navoonnay	July and Aug.	Dec. and Jan.
Oil Nuts	do.	March
Paddy	June and July	Nov. and Dec.
Do. watered	July and Aug.	Nov. Dec. Jan. and Feb.
Ragghy	do.	Dec. and Jan.
Red Gram	June and July	do.
Saumay	October	February
Sugar Cane	March & April	March & April
Sudjay	July and Aug.	Dec. and July
Tobacco	August	March
Do. watered from wells	Jan. and Feb.	June and July
Turmeric	May	October
Wheat	October	March


MAP
of the
CEDED DISTRICTS.
Population and Extent in Square Miles of the Collectorates of Bellary and Cuddapah according to the most recent investigation.
Square miles | Population
Bellary ... 12980 | 1226703
Cuddapah ... 12970 | 1087261
Total ... 25950 | 2307964
Kurnool contains Square Miles 1056, Population not known
Scale
32 Miles to an Inch
BELLARY
KURNOOL
CUDDAPAH
RACHORE
Adony
Harponelly
Hurryhur
Chittledroog
Changirry
Gooty
Hundee Anantapoor
Dhurmaiver
Rachouty
Curcumbaddy
Chundurghiry
Seerah
Hospett
Muctul
Moodgul
Madaveram
Toomcoor Fort
B E L L A R Y
M Y S O R E
Madras Lith. Press.

CEDED DISTRICTS.

The Ceded Districts, one of the Military divisions of the Madras presidency, came into the possession of the Honorable East India Company in the year 1800, by a treaty entered into with His Highness the Nizam, or Soobah of the Deccan, subsequent to the fall of Tippoo Sultan, and the partition of his territories.

The country which may be described as a table-land, lying between the eastern and western ghauts, at an average elevation of about 1600 feet above the level of the sea, is of a triangular shape, and extends between the 13th and 16th degrees of north latitude, and the 76th, and 79° 30″ of east longitude;—comprising an area of 25,950 square miles, with a population of 2,307,964 inhabitants. It is bounded on the north by the Nizam's dominions, from which it is separated by the rivers Toombuddra and Kistnah;—on the east by the districts of Nellore and Guntoor, the eastern ghauts forming the natural boundary on this side;—the southern and western aspects of the country being bounded by the province of Mysore, and a part of the Southern Mahratta division.

The general appearance of the country is irregularly mountainous, with several ranges of hills, of both granitic and secondary formation, and extensive plains of regur or cotton soil, lying between them.

The principal rivers are the Toombuddra, Kistnah and Pennar.

The Ceded Districts, properly so called, is divided into two collectorates, those of Bellary and Cuddapah, to which the principality of Kurnool has lately been annexed. The military stations are, Bellary the head quarters of the division, and also the residence of the Civil authorities of the collectorate;—Cuddapah and Kurnool, stations for single native corps; and the hill fort of Gooty, where a detachment

of a native corps is stationed, for the protection of certain State prisoners there confined.

Statistical tables for the collectorates of Bellary and Cuddapah, will be found in the appendix, showing the extent of land under cultivation in the different talooks, and the amount of population; with other interesting particulars.

BELLARY.

General description.

The Bellary collectorate, or western division of the Ceded Districts, comprises the northern part of the elevated table-land lying between the ranges of the eastern and western ghauts, which extends from the 11th to the 16th degrees of north latitude. The highest parts of the table-land are near Bangalore and Nundydroog, where the altitude above the sea is 3000 feet, from whence there is a fall in every direction. Towards the north, the declination continues for 250 miles, chiefly through the Bellary district, along the valleys through which the large rivers Toombuddra and Kistnah flow; and although the descent is so gradual, as to be imperceptible to the traveller, the fall from Bangalore to Bellary amounts in a distance of 188 miles, nearly due north, to 1818 feet, the latter place being found to be only 1182 feet above the sea.

All the rivers which have their origin in this district, or in the adjoining part of Mysore, follow a northerly course, the Hoogeree rises near to Serah in Mysore, which is 2,223 feet above the sea, and runs due north in nearly a straight line, until it empties itself into the Toombuddra. In its way it passes near to Bellary, which being 109 miles north of Serah, gives a fall in that distance, of 1041 feet. The collectorate comprises an area of 12,980 square miles. Mysore lies to the south and west, Cuddapah and Kurnool to the east, and to the north, the rivers Toombuddra and Kistnah form its boundary, separating it from the Dooab and the Deccan.

The district generally is very flat and open, but there are many hills of granite scattered over its surface, and it is inter-

sected by numerous lower ranges. In the hot season the country has a sterile appearance, from the absence of trees, and all vegetation, but shortly after the rains fall in June, the plains become converted into vast fields of luxuriant grain. The open country is a rich black cotton ground, and near to the hills it is of a deep red, and is generally thickly covered with stones, of the same geological characters as the rocks composing them. Granite is chiefly met with about Bellary, Bejanuggur, Adoni and Paulsamoodrum. The principal ranges of hills are the Nullamulla, on the north eastern frontier, and the Kumply and Sundoor, on the western side. The former is composed of sand-stone and clay-slate, the two latter of a chloritic slate ; in many of the hills, long dark coloured trap-dykes, shoot out prominently like walls, above the surface. A spur from the Sundoor range runs along the south side of the cantonment of Bellary, and extends in an easterly direction, to Boodiaul eight miles distant, where it abruptly terminates. A high point in this range is opposite to, and within four miles of the fort of Bellary, and is called the copper mountain, the height of which is 1600 feet above the plain, or 2800 above the sea. There is a small space of table-land on the top, which might be made available for a *sanatarium*, at a moderate expense. The chief objections to it are the steepness of the ascent, and the necessity of supplies of all kinds, and even water, having to be carried up from the plains. On one occasion also, some years ago, when a party of officers were preparing to ascend these hills, a baggage tent pitched on the summit, was struck by lightning, and two or three men killed.

The copper ore which is here found, is the green carbonate, in the state of clay, lying below the crest of the southern epaulment of the hill. Excavations are still to be seen, said to be the remains of mines worked by order of Hyder Ali ; but which were abandoned in consequence of the expense exceeding the profit. Besides copper, hæmatitic iron ore in large quantities, is found, some of which possesses magnetic properties.

Rivers. The principal rivers are the Toombuddra, and Kistnah; the former rises in the western part of Mysore, and runs in a north easterly direction, until it joins the Kistnah a few miles below Kurnool; the latter rises near to Satarrha, and has a south easterly course towards Kurnool, where it again turns to the northward, and falls into the sea about 30 miles south of Masulipatam. In addition to these, the Pennar river rises at Nundydroog, and runs in a northerly direction for 130 miles, then turns to the eastward, passing by Cuddapah, and falls into the sea near Nellore. There are numerous other small rivers and nullahs, which empty themselves into the Toombuddra, and only contain running water during the rains.

The wood required for the use of the station of Bellary, is floated down the Toombuddra, but none of the rivers are navigable for any distance.

Several annicuts or dykes, are built across the head of the Toombuddra, to raise the height of the stream, from which water courses are opened, for the irrigation of extensive tracts of country along its banks, particularly at Humpy or Bejanuggur, Seeragoopah, and Rampoor. These dykes were constructed by the Hindoo sovereigns of Bejanuggur, in former days.

Tanks and wells. Tanks for the purposes of irrigation are numerous; one of the largest is the Duroogee tank, about 18 miles west of Bellary, which is chiefly fed by a small river running through the Sundoor valley, and an extensive sheet of wet cultivation, lies below its banks. The other large tanks, wells or bowries, are very deep, and require great labour in sinking them, having in general to be cut through solid rock. In the low grounds near the banks of rivers, water is usually found about 12 feet from the surface, but in other situations, it is not met with nearer than from 20 to 30 feet. The water of wells sunk in cotton ground, is always of that description called hard, and is very frequently brackish, and unfit either for drinking, or culinary purposes,

from containing a large quantity of common salt, and of carbonate of lime; the former is likewise found on the surface, and the latter in the white calcareous earth, the invariable subsoil of the cotton lands, and it also fills up the interstices between the blocks of granite, which lie below the surface.

Vegetable productions and plants.

The most common indigenous trees are the *babool*, the *ber* and the *wild-date*. The babool or gum-arabic tree, is chiefly met with along the banks of nullahs, but is also found on the plains; the wood is very hard, and valuable for making ploughs and other agricultural implements. Gum is likewise collected from it, and the bark is used in tanning, and also in the distillation of arrack. The ber tree or zizyphus jujuba, has some resemblance to the birch, in the upper surface of the leaves being of a deep green, and the lower of a whitish colour. The wood is used in building, and the fruit is eaten by the natives. The leaves ground up with tyre are given in bowel complaints, and in difficult parturition. The leaves of the wild-date, elate sylvestris, are made into mats, and the stalks into baskets and tatties, and the fruit is much prized by the natives; the two last named trees grow in low sandy situations near nullahs. In the Nullamulla range and in the north-eastern part of the district, *teak*, *black palmyra*, and other valuable trees are found, and likewise the bamboo. Much useful wood is brought from Sundoor and the adjacent hills, from whence also Bellary is supplied with firewood.

The trees most commonly met with in gardens, are the same as those in other parts of India, such as the mango, tamarind, banians, margosa and cocoanut, topes of the two former being planted in red soil.

The only shrubs seen, and which over-run the uncultivated black soil, are the cassia auriculata, and the glacous leaved physic nut, iatropha glauca, or as it has been called croton lobatum. The former resembles the broom in appearance, having a bright yellow flower; its seeds are considered refri-

gerant; and the latter has a very unsightly appearance, and from its seed an oil is extracted, which is used in chronic rheumatism and paralytic affections. These with a few acacias, are the only plants to be seen on the vast plains of cotton ground.

The tortilis euphorbia is commonly found amongst rocks, and in red soil, with many other shrubs, such as the milk hedge, prickly pear, aloes, asclepias gigantea and datura fastuosa.

Mineral products. Among the mineral products of the Ceded districts, are iron of excellent quality, copper, lead, antimony manganese, culinary salt, natron or native soda, salt-petre, and a small quantity of alum.

It is probable that coal may exist in the lime and sand stone formation, about Cuddapah and in the bed of the Pennar, and it would be worth while in these situations, which abound with the finest natural springs, to ascertain by boring if this mineral exists.

Insects. Insects are not particularly numerous, but scorpions are very abundant, the cobra-de-capelle is met with, though very few snakes of any other description.

Birds. Birds are in great variety, as the hooppo, jay, dove, woodpecker, cuckoo, tailor, and mango birds; the quail, partridge, rock pigeon, pea fowl, florikin, bustard, snipe, teal, wild duck, flamingo, owl, and hawks of several kinds.

Wild animals. Wild animals are also numerous, as hares, antelopes, spotted deer, foxes, jackalls, hyenas; those confined to particular localities, are monkeys, wild hog, elk, bears, cheetahs and royal tigers.

Fish Fish is procured in but limited quantities.

Population. The population amounts to 1,226,703, and is composed of a great variety of castes. People of two different

tongues meet as it were in the centre of the district, viz, the *teloogoos* and *canarese.* The teloogoo language is spoken in the eastern part of the district, and the canarese in the western; the line of separation lying half way between Bellary and Ghooty, but the teloogoo and canarese villages are very much intermixed, for some distance.

The teloogoo people are followers of Vishno, and burn their dead. The canarese worship Siva, and are chiefly of the Jungum caste, or those who wear the *lingum* or *phallus,* which is carried in a silver box on the breast, or tied round the arm; they bury their dead. There are also considerable numbers of Mahrattas and Mussulmans.

The principal objects of worship are Siva, in the form of a bull, and of the lingum; Hunnooman, in that of a monkey; and the cobra-de-capelle; offerings to the latter, are confined to the time of marriages. At Bejanuggur there is a celebrated lingum pagoda, to which natives from all parts of the country flock at the time of the annual festival. There is likewise another pagoda in Sundoor, erected to Cartika the hindoo Mars, which is also a place of pilgrimage. The people of both castes join in each others festivals. The guardian deity of villages is Mareeummah, and in time of sickness vows are made to her, and offerings of fowls, sheep, or buffaloes, to remove the evil. At Bellary, numerous sheep are sacrificed to this goddess, every tuesday and friday; in making the offering one person holds the head, and another the body of the animal, keeping it standing, whilst the poojaree or officiating priest, with a single stroke of the sacrificial axe, severs the head from the body. The head and right fore leg are the perquisite of the poojaree, and the persons who make the offering carry home the body of the animal to feast upon.

The inhabitants generally, are tall, stout and well formed, and are comfortably clad; their food chiefly consists of dry grain, particularly cholum, which is ground into flour, and eaten in the form of cakes, rice being but little used; and the description preferred is partially boiled grain, which has

been dried in the sun; but which cannot be preserved beyond a few days.

Prevailing diseases. Fevers are common in the cold weather and during the rains, but are generally mild, leaving no ill effects, such as enlarged spleens, or dropsy. When the disease is severe or fatal, the danger is generally owing to the supervention of affections of the head or chest.

Bowel complaints appear during the rains, and often prove fatal to old or sickly persons. Ophthalmia, or the country sore eye, is prevalent during the hot season, as also guinea worm; and scrofula is not an unfrequent disease; tubercular phthisis has not been seen, but severe and fatal cases of pneumonia, as a sequence of fever, are occasionally met with. Small pox is seldom heard of, and there can be no doubt that the infrequency of this dangerous disease, is to be ascribed to the general diffusion of vaccination throughout the country. Cholera unfortunately often makes its appearance both as an endemic, and also in an epidemic form, carrying off numbers of people. Diseases of the skin are not very prevalent.

Paupers do not appear to be numerous, they usually go from house to house in the evening, at the time the people make their principal meal, and beg a portion of food; but the inhabitants, both hindoos and mahomedans, are severely taxed by numerous able bodied religious mendicants, who go from door to door every morning, singing or playing on musical instruments, and boldly demanding charity; these sturdy vagrants will only accept money, or uncooked grain.

Villages and houses. All the villages are surrounded by walls, and the houses are constructed of stone and mud, the roofs being flat and covered with earth. The doors are made of planks of wood, or of branches of trees strongly wattled together, and plastered over with clay, and cowdung; the floors being smoothed over about once a week with a similar mixture, which destroys vermin, and which when dry, has a very cleanly appearance.

Agriculture. The chief products of the cotton grounds are cholum, cumboo, millet and cotton; these likewise grow in light red soil, but the castor oil plant with various kinds of pulses,are chiefly cultivated in the latter, and are all sown at the same time. The state of agriculture in this country is very defective, especially in the manner of ploughing and manuring, but the after process of clearing the fields of weeds, and loosening the earth about the roots of the plants, appears to be well managed, by means of small hoes drawn by bullocks, an operation easily effected, from grain of every description being sown in drills.

On first breaking up cotton ground, and once in about every 10 or 12 years, the soil is turned up with a large plough drawn by 12 bullocks, and traversed several times in different directions, until weeds and jungle plants are entirely extirpated ; a large trec is then drawn over it to break the clods of earth, thrown up by the plough; and an iron instrument called chinna coondooka, or the native harrow, three feet square, is afterwards passed over it, still further to level and smooth the surface. The grain is sown in three rows at once by the drill machine, worked by two bullocks, but large seeds as the cotton, and castor oil, are sown in single rows, by a drill box held in the hand. The harrow is again drawn over the surface, to cover in the seed. In succeeding years the small plough worked by two bullocks, and the harrow only are used.

Cotton is grown in drills along with cholum, or millet ; with the former the drills are about six feet apart, and have from four to six rows of cholum, between each one of cotton ; with the latter, the drills of cotton are only three feet apart, and have two rows of millet between them. When the crop of millet is cut down, a very singular and sudden change occurs, one day nothing being seen but yellow grain, which on the next disappears, and a thick crop of green cotton, about half a yard high remains. None of the fields are enclosed, but they are generally separated from each

other, and protected at the sides of the road by rows of the prickly jamaica yellow thistle, argemone mexicana.

Bullocks travelling along the roads, when the grain is on the ground, are muzzled to prevent their committing depredations. In the irrigated ground, sugar cane and rice are cultivated, the latter without being transplanted. When the grain is cut, it is carried to the threshing floor, and trodden out by bullocks. The granaries in which it is stored are large holes dug in the ground, having only a narrow opening sufficient to enable a man to descend into them, but excavated to the size of six or more feet in diameter, and about the same in depth; when filled with grain the opening is closed with a stone, covered over with earth. Grain in time of war, used to be thus concealed from the enemy.

A preference is given to red soil for garden ground, in which carrots and onions of a very superior kind are produced as also chillies, tobacco, and flowering plants, for making the wreaths presented to idols. Gardens are watered from wells, the water being raised by bullocks; melons are extensively cultivated in the dry beds of rivers, the sand being excavated to the depth of two or three feet, in the form of pits or trenches, into which two or three baskets of earth and manure are thrown, previous to the seed being put in.

Horned cattle. The horned cattle of the district are of a very good description, draught bullocks sell at from 15 to 30 Rupees each, and cows with young calves, bring from 10 to 20 Rupees.

Diseases of cattle. Pedda rogum, the disease so called is a purging of slime and blood, during which the animal neither eats nor drinks. It occurs when heavy dews prevail. The treatment consists in giving equal parts of the bark of the mango and fig trees, with the astringent bark of the nawel, or calytranthus-caryophyllifolia in sour buttermilk, about a pint of which is administered daily. In a herd of 1,000 bullocks, 200 have sometimes been affected, of whom four-fifths have been known to die.

Domma rogum, a swelling of the abdomen attended with watery purging, cough, want of appetite, great thirst and frequent passing of urine, is a disease of the hot weather. In this complaint a mash of butter-milk, onions and rice, is usually given for three days; the animal is then fired on the chest, head and flanks, after which four drams of arrack, with the yolk of an egg, are given daily for three days. When this disease prevails, a fifth part of the herd may be expected to be attacked, the mortality amounting generally to 50 per cent of the sick.

Bubba rogum, is a swelling and trembling of the whole body, in which the animal neither eats nor drinks, and there is a constant flow of saliva from the mouth. The disease occurs during the rains. In the treatment, a mixture of common salt and turmeric is rubbed on the tongue, and green gram and onions, in butter-milk, are given frequently. The number attacked when this disease occurs, has averaged 10 per cent, and the mortality amongst those attacked is about the same.

Ghalee rogum, maggots in the hoofs. Camphor, green tobacco, and soot, are mixed with ghee, and applied to the feet, about 10 in 100 of those attacked die.

Diseases of sheep. Bubba rogum in the sheep, is an eruption over the body, which is calculated to destroy about 10 per cent of those attacked. No medicine is given, it occurs in the rains.

Domma rogum, is a disease of the hot weather, in which the animal is affected with puffiness of the belly, a loose watery purging, and loss of appetite. Three lines are fired across the nose, but no medicine is given. During the prevalence of this disease, the attacks have amounted to 40 per cent of the strength, and the mortality is generally one half of those affected.

Kith komba rogum, is a very fatal disease which appears in the rains, and prevails extensively. The symptoms are

swelling of the head and face, severe purging, trembling and shaking of the body. No treatment is employed. The attacks when it becomes epidemic, amount to 60 per cent on the strength, and the mortality amongst those attacked, is fully 90 per cent.

Large flocks of sheep are reared in the district, the flesh of which is of good quality, but the fleece, or hair, is coarse, and of a black colour. Sheep generally suffer most in wet climates, but notwithstanding the dryness of the Ceded districts, it will be seen they are subject to many fatal diseases.

Roads. From the level character of the cotton ground, and the absence of stones, the roads are good in dry weather, but heavy and bad, in the wet season. Although the white calcarious earth, which lies from about two to ten feet below the cotton soil, and the red gravelly earth found about the hills, are excellent materials for constructing roads, they are not used for that purpose. The value set upon a good road is strikingly seen in the preference given to one of those leading from Bellary to Madras; the shortest being viâ Cuddapah, but it is so bad and stony, that carts never take that route from choice, but prefer the Mooglee, or Peddoonaigdroog pass, and Nundy-droog, although the ascent is 2,000 feet higher than by the other road, and the distance is greater by upwards of 20 miles; while cart hire for the shortest route only, is paid. Cotton is sent in large quantities to Madras, by return carts which bring supplies to Bellary.

The country carts in use are of a singular construction. The wheels being from one and a half to two feet in diameter, and made either of flat circular pieces of wood, or of stone slabs; the axles revolve with the wheels, and the body of the cart is well raised above them, by two straight pieces of wood on each side, in which the wheels run, but carts with large wheels composed of spokes, felloes &c., are coming into use.

Manufactures. There is a considerable manufacture of good

PLAN
of the
FORT AND ENVIRONS
of
BELLARY.
References
Cantonment West of the Rock
3 Native Garrison Hospital
5 Hospital
7 Cavalry well and watering troughs
9 Public Burial Ground
Lower Fort
a. European Gar. Hospital now used as a Parcherry for women of the Regiment
b Church and Vestry.
c Old Eur. Barracks with detached new necessaries
d. New do. do
e. Arsenal
f. Artillery Barracks with new sheds in front for Guns and Timber
g. Main Guard Room
h Fort Adjt's. Office now used as a school room for the Regiment
i. Lock Hospital
k. Solitary Cells (two)
l Private dwelling houses
Upper Fort
A. Powder Magazine
B Solitary Cells
C Officers Guard Room; a state Prisoner now kept there
D Flagstaff Bastion
E Barracks.
Ameer Bowrie
Lime Kiln
Ball Practice Ground
Rifle Ground
Topkhul
To Moka
Bull.
Battery
Mortar Range
N1 Lines
Hospital
Well
Gun Lascars Lines
Gallows
To Hoonoor
To Goty
Garrison Drill Ground and School.
Scale of 450. ft. to an Inch.
Feet.

to Bangalore 188, to Madras 316 by way of Cuddapah, and by Chittoor and Paulsumoodrum 337 miles.

The station which is the head quarters of the Ceded districts, consists of the fort, military cantonment, bazaar and the pettah; with the Civil court, and Collector's cutcherry belonging to the Zillah.

Fort. The fort or fortified rock, around which the cantonment of Bellary is situated, is a bare granite hill, of an oblong, or rather a semi-elliptical form, the longest diameter of which extends from south to north; it rises abruptly from the plain to the height of four hundred and fifty feet, and is about two miles in circumference. Viewed on its eastern and southern sides, it presents a bold and precipitous aspect, and appears to be composed of a huge heap of loose fragments, irregularly piled on one another; but on its western face, it declines with a gradual slope towards the plain, and exhibits a smooth unbroken surface, indicating that it was originally one entire solid mass, and that, on its more exposed aspects, it has been gradually decomposed, by the continued action of the elements. At the distance of a few hundred yards to the northward, is a long ridge of bare rugged rocks of similar formation, and at a short distance to the eastward, are several lesser elevations of the same character. They are all of granitic origin, and are chiefly composed of felspar and ferruginous hornblende, the former frequently presenting large rhomboidal prisms, which strongly reflect the rays of light, and the latter being disseminated through the rock, in black shining crystals and granules, giving to it when recently fractured, a dark grey colour, but which, after exposure to the atmosphere, first assumes a dull greenish hue, and afterwards a light rusty brown, apparently from the readiness with which this species of hornblende undergoes decomposition.

The rock is defended by two distinct lines of works, constituting the upper and lower forts, both built of granite; in

the upper one, the summit of which is flat and of considerable extent, stands the citadel, it is reputed to be of great antiquity, and might be rendered impregnable; it affords however no accommodation for troops, and is consequently never occupied, except by a small guard. The cells for the prisoners are built within it and from their elevation, are at all times cool and pleasant; several tanks or cisterns have been hollowed out in the rock, for the purpose of retaining rain water. The lower fort, which is of more recent construction, consists of low turrets connected together by curtains, is of a quadrangular figure, has a dry ditch and covered way in front, and surrounds the base of the rock, from its south-western, to its north-eastern angle; it is half a mile in diameter, and within it are the barracks for the Queen's regiment, and the Company's European artillery, the arsenal, the ordnance and commissariat stores, the protestant church, and numerous bungalows for officers.

The soil is artifical, and much impregnated with saltpetre; the wells within the fort are therefore all brackish, and the water used by the troops, is brought from without.

On the south side of the fort, about 100 yards from the rampart, is a large tank, with a road running along its edge; to the north, at the distance of 200 yards, is a rocky hill of granite; on the south west the ditch is widened, and walled up at one end so as to form a tank, which is filled by the rain from the upper fort, and which descends from the rock in cascades during heavy showers; and on the east, is a wide esplanade containing the burial ground, beyond which is the zillah court, jail, collector's cutcherry, and the houses of the principal European gentry. South east of the fort, and below the bund of the tank, is the pettah, in which the former inhabitants of the fort now reside, having been removed out in 1816, at a considerable expense to Government; at the head of the tank is the bazaar, and at the distance of about half a mile, lies the cantonment, with the native barracks and officers' houses.

According to a census taken in 1837, the population amounted to,

	Males.	Females.	Children.	Total.
Cowl bazaar..........	6,076	4,559	4,937	15,563
Bruce pettah........	4,597	4,979	5,287	14,863

The soil about the fort for the distance of a mile, on three sides, is red and gravelly; a strip of black cotton ground about half a mile in breadth, runs through the cantonment on the south, on which the houses are generally built. The ground slopes in all directions from the fort and cantonment, so that no water lodges in the neighbourhood, and there are no marshes in the district.

The plain around Bellary is flat, presenting scarcely any undulations; it is wholly destitute of jungle, lightly covered with verdure, and from want of water is but little cultivated. At the distance of about six miles to the westward, it is bounded by a low range of hills, scantily clothed with vegetation, which are composed of chloritic slate, traversed by greenstone dykes; to the eastward, it presents to the view a vast level expanse, studded with isolated masses of bare granitic rocks, and exhibiting in the distance detached ranges of low barren hills; apparently of similar formation. The prevailing soil, is what is termed black cotton ground, consisting of a dark tenacious loam, extremely fertile, and in many places strongly impregnated with saline materials, especially nitre which is obtained in considerable quantities by lixiviation, during the dry season, and constitutes an article of commerce. This kind of soil every where predominates, except immediately around the granitic elevations, where from the disintegration of the rocks, it is light, and sandy, through which water readily percolates.

There are no rivers, nor marshy grounds within some miles of the cantonment; and the only appreciable source from which malaria can be supposed to arise, is the large tank, which is situated to the south east of the rock, and approaches within a few yards of the fort. This when full, is

upwards of three miles in circumference, but being for the most part extremely shallow, it is soon reduced during the dry season, to half that extent, by the rapid evaporation from its surface. In this half dried state, noxious exhalations have been supposed to issue from it, giving origin to remittent fever which has occasionally prevailed here; but some other causes however, must be referred to as capable of producing this form of fever, as it has occurred during seasons, when the tank was completely filled. There is another but a much smaller tank, which extends along the western base of the rock, and terminates at the fortifications, where it may be made, in case of emergency, to communicate with the dry ditch; it is the source from which the garrison and the inhabitants are supplied with water for culinary and other purposes.

Climate. The climate is characterized by the extreme dryness of the air at all times; the annual fall of rain being very limited, dews in general are light, and last but for a short time, and there are no heavy fogs.

The wind blows principally from the west and north-west, from March to November; and from the east and south-east in December, January and February, but with considerable daily variations. In the hot season, a strong wind generally blows from the westward during the night, oppressive calms or lulls are not common, and usually occur about sun set, in the hot weather. The hottest part of the year is from the beginning or middle of March, to the end of May, or the setting in of the south-west monsoon. The most oppressive part of the day is usually from 2 to 7 P. M., but the nights and mornings are comparatively cool, even at the warmest period of the year. In the cold season, the thermometer in the open air, falls to 55° in the morning, and at times even below 50°, and rises to about 100° at 2 P. M., in the sun. The glare is at all times very great from the white sparkling nature of the ground, which, as well the roads, is composed of the debris of granite rock; and verdure con-

tinues only for a short time, owing to the little rain which falls, and to the dry rocky nature of the soil. Lightning and thunder occur occasionally from April to July, and again in September and October. The thunder is usually very loud, and a year seldom passes without the electric fluid injuring buildings or persons within the limits of the fort, or cantonment, and similar accidents are likewise by no means rare in the district.

The following table exhibits the average height of the thermometer at sunrise, between noon and 2 P. M., and at sunset; and also the amount of rain for each month, during the two years ending 1842. The thermometer was kept in the dispensary of the European garrison hospital, a low tiled building without verandahs.

	1841.				1842.			
	Thermometer.				Thermometer.			
	Sunrise.	12 to 2 P. M.	Sunset.	Pluviometer Inches.	Sunrise.	12 to 2 P. M.	Sunset.	Pluviometer Inches.
January....	78	84	82	0 0	74	84	83	0 0
February..	74	87	85	0 02	73	84	84	0 0
March.. ..	83	92	92	0 03	81	97	90	0 0
April.......	86	94	94	4 19	86	99	90	0 02
May	84	92	92	0 09	82	92	100	1 81
June......	81	86	85	4 40	76	86	84	2 75
July......	80	85	83	1 17	79	85	84	0 60
August....	79	83	82	6 10	77	83	82	1 74
September..	75	75	78	4 61	78	83	81	8 44
October....	78	83	82	5 38	79	84	83	2 21
November..	73	82	81	0 39	76	82	82	0 03
December...	72	81	81	0 02	73	81	80	0 0
				Total. 26 40				Total. 17 57

European barracks. The barracks of the European troops are situated within the fort; there are two distinct buildings for the infantry, about 560 yards apart, the first appropriated to the right wing of the regiment, is built on high ground close to the ramparts, on the south side, nearly overlooking the tank; and that of the left wing, is near to the ramparts on the north, on lower ground; each is constructed in the form of a square, having a verandah all round; the

roofs are pent and tiled, with ventilators. The artillery barrack is upon high ground, close to the base of the rock, and about 100 yards from the infantry right wing barrack; it is in the form of three sides of a square, and has a row of pillars in the centre of the rooms, to support the roof which is tiled, and without ventilators. Each of these buildings is surrounded by a high wall. The plan of erecting barracks in the form of a square, is objectionable in a country like India, where free ventilation is so very necessary, and the doors and windows are not sufficiently numerous, being in the infantry 15 feet apart, and in the artillery barracks, from 12 to 28 feet. To regulate and command the temperature and currents of air, the doors should be venetianed to the ground, the windows should be long, narrow and in two compartments, the lower being venetianed, and extending to within a foot of the floor, and the upper both venetianed and glazed. The space between the windows, or windows and doors, should be sufficient for two cots, with their heads to the wall, so that each man would be close to either a door or a window, and enjoy a sufficiency of light, fresh air, and coolness. The two latter are absolutely requisite to health in this country, and can only be obtained, in sleeping apartments, by an adequate number of doors and windows.

Barracks are in course of erection, calculated to accommodate a wing of an European regiment, on open elevated ground near the garrison hospital, and are getting on rapidly; they are considered to be the best buildings of the kind to be seen in this country for European soldiers.

European hospitals. There is also an old European hospital in the fort, which is used as a receiving hospital for cholera patients, and for the sick women, and children of the regiment.

The new European hospital is situated in a fine, open, dry plain, about a mile to the westward of the fort, and is calculated to contain 130 patients.

The military cantonment, and the lines of the native troops, are situated at a short distance on the western side of the rock

while the General officer commanding the division, with the military staff, and officers of the civil service, reside on the opposite side; at the distance of a little more than half a mile to the south-east, is the native pettah, said to contain nearly fifteen thousand souls; and about the same distance to the south-west, is the cooly bazar, separated from the former by the head of the large tank.

Native barrack and hospitals. The native barracks or places of arms, ten in number, are situated about a mile to the south-west of the fort, they have a southern aspect, are built of stone, and have tiled roofs. They can accommodate three regiments of native infantry, and one of cavalry.

The hospitals for native troops, adjoin the places of arms, and consist of three buildings, one of which contains two wards, sufficient for the sick of two regiments, another is the native garrison hospital, which is formed of the most western place of arms, and the third is the cavalry hospital.

Tables of disease (from No. 1 to No. 10) amongst the European and native troops, with some remarks are given at the end of the report of this division, as in the preceding reports; it remains however to give here some account of those amongst the prisoners in the jail.

The Court house, jail and hospital are situated in one large compound to the eastward of the fort, about half a mile distant, and close to a small rocky hill, which protects them in some measure, from the strong unpleasant north-west winds which prevail during several months of the year. The site is high and dry, and there are no marshes in the neighbourhood.

Jail. The jail consists of several buildings, for the various classes of prisoners, in separate areas; the whole forming an oblong square, surrounded by a high wall, sufficiently distant to allow a free circulation of air. The department for the male convicts consists of 21 cells, each fourteen feet in breadth and varying in length from nine to thirty;

that for the female convicts contains 6 cells, each fourteen feet square; the jail for prisoners under trial consists of 8 cells, each fourteen feet square. The different courts are spacious; the cells are of a good height and well built and are freely ventilated, and kept remarkably clean; there is no water within the jail, and the prisoners procure and carry it for their own use, from two large wells in the outer compound.

A table shewing the diet, elothing, labour &c. is given as usual at the end of the report. In this jail prisoners of the same câste are allowed to club together in small messes, and to cook their food as they please. The kitchens for the various câstes are very convenient.

Hospital. About 50 yards from the principal entrance to the jail is the hospital in a separate enclosure; it is terraced and consists of two wards, the one 37 by 14, the other 18 by 14 feet; the windows are large and both wards are well ventilated, the floors are of mud and raised two feet from the ground. The offices attached to it consist of a surgery, store room, two cooking rooms and a necessary, all in a state of good repair.

Behind the hospital in a separate court yard are five small cells for insane prisoners, each 14 by 12 feet; when unoccupied by people of this class, some of the prisoners under trial are placed in them.

The male convict jail was built in 1808, the female ditto, the jail for prisoners under trial or civil jail, and the hospital, in 1818, the cells for lunatics in 1826; and a tiled verandah was erected round the inner side of each of these buildings in 1829.

The following tables shew the nature and amount of disease and mortality from each class of disease, with the percentage of sick to strength, and of deaths to disease, during ten years ending December 1838.

JAIL OF BELLARY.

No. 11.—*Table exhibiting the number of Admissions and Deaths of t Convicted Prisoners, from each class of Disease for 9 years.*

CLASSES.	DISEASES.	exclusive of 1831. From 1829 to 1838. Aggregate strength 5,058. 1st Half. Ad.	1st Half. Dd.	2d Half. Ad.	2d Half. Dd.	Admissions and deaths from each class of disease. 1st Half. Ad.	1st Half. Dd.	2d Half. Ad.	2d Half. Dd.	Total admissions from each class of disease.	Total deaths from each class.	Average per centage of sick to strength.	Average per centage of
Fevers......	Febris ephemera	4	1	21	0	268	34	226	21	494	55	9 ·766	11 ·1
	,, intermit quot.	237	21	194	12								
	,, tertiana......	1	0	0	0								
	,, remittens. ..	22	11	10	9								
	,, continua.....	4	1	1	0								
	Cholera.........	1	0	28	22	1	0	28	22	29	22	0 ·573	75 ·8
Diseases of the abdominal viscera......	Diarrhœa	39	8	87	42	126	21	203	78	329	99	6 ·504	30 ·0
	Dysenteria acuta et chronica..	87	13	116	36								
Diseases of the lungs and heart.	Catarrhus......	1	0	1	1	9	4	9	6	18	10	0 ·355	55 ·5
	Asthma........	0	0	1	1								
	Pneumonia.. ..	2	2	2	1								
	Phthisis pulmonalis..........	5	2	5	2								
	Hœmoptysis....	1	0	0	1								
Diseases of the brain.	Epilepsia.......	1	0	1	0	4	1	6	2	10	3	0 ·197	30 ·0
	Apoplexia......	1	1	1	1								
	Paralysis.......	1	0	2	0								
	Mania..........	1	0	2	1								
Eruptive fevers......	Variola.........	5	4	0	0	26	4	3	0	29	4	0 ·573	13 ·7
	Varicella.	21	0	3	0								
	Rubeola..	0	0	0	0								
Dropsies....	Anasarca.......	12	5	9	6	12	5	9	6	21	11	0 ·415	52 ·38
Rheumatic affections.	Rheumat. acutus et chronicus	78	7	65	13	78	7	65	13	143	20	2 ·827	13 ·9
Venereal affections ..	Syphilis primitiva..........	10	1	7	0	12	1	8	0	20	1	0 ·395	5 ·0
	Gonorrhœa.....	1	0	1	0								
	Hernia humoralis............	1	0	0	0								
Specific diseases.....	Atrophia.	22	15	34	16	162	33	68	23	230	56	4 ·547	24 ·3
	Elephantiasis....	1	0	0	0								
	Dracunculus. ,..	107	1	10	3								
	Beriberi........	24	16	16	4								
	Scrophula.......	8	1	8	0								
Diseases of the eye...	Morbi oculorum	19	0	28	1	19	0	28	1	47	1	0 ·929	2 ·1
Do Skin.	,, Cutis..	145	0	194	1	145	0	194	1	339	1	6 ·702	0 ·2
	Other diseases..	449	4	443	17	449	4	443	17	892	21	17 ·635	2 ·3
	Total..	1311	114	1290	190	1311	114	1290	190	2601	304	51 ·423	11 ·6

JAIL OF BELLARY.

.2.—Table exhibiting the Number of Admissions and Deaths of the 'risoners under Trial, from each class of Disease for 9 years.

·SSES.	DISEASES.	exclusive of 1831. From 1829 to 1838. Aggregate strength 1304. 1st Half. Ad.	1st Half. Dd.	2d. Half Ad.	2d. Half Dd.	Admissions and deaths from each class of disease. 1st Half. Ad.	1st Half. Dd.	2d. Half. Ad.	2d. Half. Dd.	Total admissions from each class of disease.	Total deaths from each class.	Average per centage of sick to strength.	Average per centage of deaths to sick.
.....	Febris ephemera	0	0	0	0								
	,, intermit quot.	21	3	17	0								
	,, tertiana......	0	0	0	0	31	8	24	6	55	14	4 .217	25 .454
	,, remittens	10	5	6	5								
	,, continua......	0	0	1	1								
	Cholera	1	1	3	3	1	1	3	3	4	4	0 .306	100 0
es of abdo- l vis-	Dysenteria acuta et chronica.	21	7	50	19								
	Diarrhœa.......	9	7	25	13								
	Colica..........	2	0	0	0	35	14	79	32	114	46	8 .742	40 .350
	Dyspepsia......	3	0	2	0								
	Hepatitis acuta et chronica...	0	0	2	0								
es of ungs	Phthisis pulmonalis.........	1	0	3	1	1	0	3	1	4	1	0 .306	25 000
es of Brain.	Apoplexia......	2	1	2	1								
	Epilepsia.......	1	1	1	0	9	2	20	2	29	4	2 .224	13 .793
	Paralysis........	1	0	0	0								
	Mania..........	5	0	17	1								
ve fe-	Varicella.	1	0	0	0	1	0	0	0	1	0	0 .076	0 .000
y.....	Anasarca.......	1	1	5	4	1	1	5	4	6	5	0 .460	83 .333
natic tions.	Rheumatismus. ac. et chronicus	7	1	9	0	9	1	9	0	18	1	1 .380	5 .555
	Odontalgia.....	2	0	0	0								
al affions..	Syphilis primitiva...........	8	0	3	1	9	0	3	1	12	1	0 .920	8 .333
	Gonorrhœa.....	1	0	0	0								
e dis-	Atrophia........	10	2	8	1								
	Beriberi.........	27	14	32	17	61	16	47	21	108	37	8 .282	34 .259
	Dracunculus....	24	0	7	3								
es of Eye..	Morbi oculorum	2	0	4	0	2	0	4	0	6	0	0 ·460	0 .000
Skin.	,, cutis......	44	0	28	0	44	0	28	0	72	0	5 ·521	0 .000
	Other diseases...	76	6	58	4	76	6	58	4	134	10	10 ·275	7 ·462
	Total....	280	49	283	74	280	49	283	74	563	123	43 ·176	31 ·847

The average annual numerical strength of the convicts during the nine years, has been 562, and the admissions 289, or 51·423 per cent; while the number of deaths annually during the same period, has averaged nearly 34, or 6·010 per cent on the strength; the total number of admissions being 2601, of deaths 304, and the aggregate strength, 5058.

Amongst the prisoners waiting for trial, the admissions into hospital have amounted to 563, and the deaths to 123, from an aggregate strength of 1304; the per centage of sick being 43·176 and of deaths 9·432 to strength.

The most numerous admissions amongst both classes of prisoners have been from *fever, bowel complaints, rheumatism, atrophy, and beriberi;* and the greatest mortality has been occasioned by the same diseases.

In the following table No. 13, are exhibited the annual admissions and deaths from eight of the principal diseases, viz. fever, cholera, diarrhœa, dysentery, anasarca, rheumatism, atrophia and beriberi. The total sick treated and mortality are also given, for the purpose of shewing the proportion of the whole mortality produced by these diseases; being 359 out of 427, or somewhat more than 5—6th.

	Jail of Bellary.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.
Convicts.	Fever	39	1	86	6	101	8	44	8	58	7	72	9	61	7	25	7	8	2	491	55
	Cholera	0	0	0	0	0	0	3	2	0	0	0	0	0	0	26	20	0	0	29	22
	Diarrhœa	20	1	8	2	21	5	10	5	38	25	9	3	6	2	9	5	5	2	126	50
	Dysentery	9	0	15	3	61	8	40	10	39	13	23	9	8	5	4	0	4	1	203	49
	Anasarca	2	0	0	0	9	8	2	2	0	0	4	0	1	0	3	1	0	0	21	11
	Rheumatism	13	0	11	1	22	3	18	4	31	9	22	2	11	0	4	0	11	1	143	20
	Atrophy	0	0	0	0	0	0	0	0	3	1	39	18	13	10	0	1	1	1	56	31
	Beriberi	0	0	0	0	1	0	36	17	3	3	0	0	0	0	0	0	0	0	40	20
	Admissions and deaths from these diseases	83	2	120	12	215	32	153	48	172	58	169	41	100	24	71	34	29	7	1112	258
	Total admissions and deaths	234	3	325	14	352	37	347	54	480	70	422	50	243	29	116	38	82	9	2601	304
	Strength each year	396		433		533		592		913		773		635		508		275		5058	
under Trial.	Fever	1	0	6	0	8	1	11	6	13	1	8	1	2	1	0	0	6	1	55	11
	Cholera	0	0	0	0	0	0	2	2	0	0	0	0	0	0	2	2	0	0	4	4
	Diarrhœa	0	0	2	1	5	3	7	4	16	9	0	1	1	0	1	0	2	2	34	20
	Dysentery	0	0	4	0	9	7	32	9	13	4	4	3	3	2	3	1	3	0	71	26
	Anasacra	2	2	2	1	0	0	0	0	0	0	2	2	0	0	0	0	0	0	6	5
	Rheumatism	1	0	2	0	1	0	5	1	0	0	6	0	0	0	0	0	1	0	16	1
	Atrophy	0	0	0	0	0	0	0	0	2	1	15	2	1	0	0	0	0	0	18	3
	Beriberi	0	0	0	0	0	0	53	27	6	4	0	0	0	0	0	0	0	0	59	31
	Admissions and deaths from these diseases	4	2	16	2	23	11	110	49	50	19	35	9	7	3	6	3	12	3	263	101
	Total admissions and deaths	9	2	48	2	52	15	155	54	145	28	90	11	23	4	10	4	31	3	563	123
	Strength each year	21		102		154		365		366		141		43		46		72		1204	
	Admissions and deaths amongst both classes of prisoners	243	5	373	16	404	52	502	108	625	98	512	61	266	33	126	42	113	12	3164	427
	Total Strength each year	420		535		687		948		1279		914		678		554		347		6362	
	Per centage of deaths to strength	1	·190	2	·990	7	·569	11	·392	7	·662	6	·673	4	·867	7	·581	3	·458	6	·711
	Per centage of sick to strength	57	·857	69	·719	58	·809	52	·953	48	·866	56	·017	39	·233	22	·743	32	·564	49	·732
	Per centage of deaths to sick treated	2	·057	4	·289	12	·871	21	·513	15	·680	11	·914	12	·406	33	·333	10	·619	13	·495

The following extracts from the reports of the medical officers in charge, will explain many of the points, which may excite surprise, in the preceding table.

"From the circumstance of the Bellary jail having been constituted a general Depot for prisoners, there have been frequent draughts from Chittoor and Salem, many individuals from amongst whom were admitted into hospital with dysentery, and several died. Old men were the greatest sufferers, and it has been observed, that, when any of this description were attacked with dysentery or fever in a severe form, the powers of the constitution had become too feeble to struggle against the disease, a desponding apathetic state of mind soon succeeded, with indifference to life, and a disinclination to take food or medicine." *Dated* 1*st July*, 1832.

"A good deal of sickness has prevailed in the jail of Bellary during the last six months, and more than the usual proportion of deaths has occurred, for which it is difficult to assign a sufficient reason; no change has taken place in the diet or labour of the prisoners. It may perhaps be correctly attributed to a peculiar state of the atmosphere, attending the failure of the north-east monsoon."

"The complaints have been those generally met with amongst prisoners, (fever and bowel complaints), but greatly aggravated by despondency and lowness of spirits, and perhaps latterly from apprehension of the fate of but too many with affections smiliar to their own. A great many when apparently convalescent lost their appetite, became leucophlegmatic, and eventually dropsical, which proceeded to general anasarca, and terminated in death, in spite of all treatment, which in fact seemed to have very little effect. Several of these cases resembled beriberi in many of the symptoms, and were treated as such, with calomel, squills and digitalis, and active purgatives, but without any benefit." *Dated* 31*st December*, 1832.

The famine which in 1833, prevailed throughout the Carnatic, extended to this part of the country, and was severely

felt over the entire Ceded districts; to it may be attributed the unusual mortality which occurred in that year. It was observed that the prisoners crowded into the jail in proportion as distress and starvation became more and more pressing, for many committed offences, to gain admission into the jail, that they might obtain food. And as might be expected, the wretched individuals admitted under these circumstances, were peculiarly liable to the invasion of disease, and, as will be observed, one half of the whole mortality in that year, took place amongst the prisoners waiting for trial. It is worthy of record that although cholera prevailed to a great extent in the bazar and amongst the troops in the fort, (especially during the first half of the year), only 5 cases with 4 deaths ocurred amongst the inmates of the jail.

The rains were very deficient during the succeeding year, 1834;—and a reference to the table will exhibit a continuance of the same diseases, and great mortality, and a crowded state of the jail.

In 1835, the jail was still greatly crowded, and the mortality much above the average, and it is recorded that "the deaths have generally occurred after protracted illness, the prisoners do not (in many instances) regain their health and vigour after attacks of disease, as others differently situated would do, and in this enfeebled state, they are subject to relapses or invasions of other forms of disease, as bowel complaints and dropsical affections under which they ultimately sink."

Some prisoners fall into this state of debility without any previous attack of acute disease, and these cases are classed under the head *atrophia*; confinement and the depressing passions appear to be the principal causes in keeping up and producing this state of the system, and to them is conjoined advanced age in some of the cases." *Dated* 1835.

During the remaining three years the number of prisoners was considerably reduced, especially in 1838, and (with the exception of an epidemic visitation of cholera in the latter half of 1837, which carried off 22 men,) the mortality has

also greatly diminished; several hundred prisoners were removed from this jail to work on the great western road during these three years.

On looking at the results of the two first and last two years in the preceding table it would appear that the jail of Bellary is comparatively healthy, when the number of prisoners do not much exceed 500. It must be remembered however that the usually fatal diseases in jails are occasionally less frequent, or absent altogether for some years; still there can be no question, that, when a large number of human beings are crowded together in a limited space, their state of health and vigour must suffer and decline, and the ordinary diseases, especially bowel complaints, then assume a peculiar form.

Many of the prisoners are Brinjaries, a class of people accustomed to live day and night in the open air, and upon whom the confinement in the jail must act very perniciously; a melancholy instance of which is thus recorded. "One of this class (Brinjarie) a young man, who died of atrophia during the last six months, requested sometime before his death to be allowed to lie in the open air, saying at the same time that he was a *jungle-walla*, and had never inhabited a house, and that the confinement in the cells did not agree with him." *Dated 30th June*, 1836.

With regard to the prevalence of the disease *beriberi* in the years 1833, and 1834, some remarks will be given hereafter in the account of the jail at Cuddapah.

CANTONMENT OF CUDDAPAH.

Situation of the cantonment of Cuddapah.

Cuddapah, a station for a native regiment, is situated on a gentle declivity, nearly in the centre of the district, being in latitude 14° 32″ north, and longitude 78° 54″ east. It is distant 166 miles north west of Madras; 152 south east of Bellary; 242 south of Hyderabad; 83½ west of Nellore, and 154 north east of Bangalore; and is 507 feet above the level of the sea.

Madras Lith. Press

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Boundaries. The cantonment is bounded on the east, by a small river which separates it from the town of Cuddapah, from which it is distant about three miles ; on the west, by an extensive and open plain, stretching with little interruption to Ghooty; on the north, by the Bellary road, some cultivated ground and a large tank; and on the south, by a road on its left flank, and by cultivated ground.

Mountains &c. The mountains in the vicinity form an uninterrupted chain of great extent, consisting of numerous parallel and continuous ridges, which rise abruptly from the plains, traverse the whole length of the district, and constitute part of the eastern ghauts.

Near Chinnoor, six miles north of the cantonment, the western connecting ridges of this elevated chain, take a south eastern direction, until within two miles of Cuddapah, where they are intersected by the Pennar river, which winds between them in an easterly course. They thence proceed south-west to Bakrapett, ten miles from Cuddapah, where they separate into two ranges, one running south, and the other west, the latter becomes identified with another but lower range, which taking its rise near the Toombuddra, runs in a semicircular direction by Bungunpully and Ghooty ; from thence it turns south-east to Gundicotta,—above the ghaut—where it is intersected by a remarkable breach, the sides of which are elevated upwards of 200 feet from the base, and through which the Pennar river flows.

About 34 miles from Cuddapah, the range becomes connected, with the eastern ghauts ; hence the plain of Cuddapah is encircled by a chain of mountains, which greatly modify its climate. Those on the west, distant upwards of thirty miles, do not seriously affect it, but, as will appear hereafter, those on the north-east, and south, being within from three to six miles, have the most injurious influence. Within a mile or two of their bases, the old and new towns of Cuddapah, and three miles further west, the cantonment, are en-

closed within a mountainous amphitheatre, varying in elevation from 1,000 to 1,500 feet, the extremeties of the arc being about 12 miles apart. (see sketch).

Hills. The ranges of hills towards the south, differ from the above in physical characters, not only in consisting of isolated hills, but also by their pyramidal form, with summits terminating in sharp and precipitous cliffs, or abruptly truncated, or round backed; while the other ranges are long ridges, some hogbacked and ribbed, with the sides deeply excavated by mountain-torrents, the bases of which form an unbroken abutment of perpendicular rocks, from 50 to 60 feet in height, presenting the appearance of gigantic walls artificially constructed.

None of the hills possess the requisites for a sanatarium, on the contrary, they have been found unhealthy; such Europeans, as have been induced to visit them, in quest of a cooler climate during the hot winds, have all suffered more or less, and some have even died of bilious remittent fever contracted there. Nor is this more than might be expected from their character, being covered with low dense jungle, and long rank grass.

Muddenpilly. The Muddenpilly range however, 56 miles south west of Cuddapah, is an exception in some respects, forming a pleasant cool retreat in the hot season. The table land is extensive, but unfortunately, after the first rains in June, fever becomes common. During the months of March, April and May, when Cuddapah is insufferably hot, and the whole face of the low country, is that of an arid desert, Muddenpilly presents the most delightful contrast, both in climate and scenery, the temperature seldom exceeding 87° during the day, and the nights being refreshingly cool, while the place abounds in fruitful gardens, shady topes of trees, and green valleys.*

* Extract from an Officer's journal dated May 1837.

"The thatched bungalow at Royachooty, built by an Officer of a Regiment stationed here several years ago, is situated on the summit of a range of hills, and nearly a mile to the south of the village, commanding an extensive view of the country, which rises gradually from Neelacuntroypett (a village at the southern extremity of the ghaut, and

Before Cuddapah was made a military cantonment, a native regiment was stationed at Royachooty, 33 miles to the southward. The country in this vicinity being an elevated, undulating and open plain, from 2 to 300 feet higher than Cuddapah, and though the temperature during the day, is as high, as at the latter place, the nights are always cool, an advantage of the greatest importance to convalescents.

Rivers. The chief river is the Pennar, which rising in the mountains of Nundydroog, and holding a northerly course as far as Ghooty, enters the district near Tallapodatoor, on the Bellary road, and after describing many windings, flows to Chinnoor, and passes by Sedhout within nine miles of Cuddapah, from whence taking an easterly course, it enters the sea at Gungaputnam.

While within the district it first receives the Coond river which has its source in the mountains on the north-east, and flows southerly to join the Pennar near Camlapoor ; about nine miles from this village, and close to Appiapully, the Pennar

12 miles from Baukrapett on the northern or Cuddapah side) until it assumes the appearance of an elevated steppe, of huge rocky barren hills, some continuous, others isolated, while the enclosed plains are apparently a wild dreary, unproductive waste, without a single tree to meet the eye, miserable villages being seen here and there, with spots of cultivation. At 6 P. M. of the 5th started to visit the palace at Gorremcondah (21 miles distant.) The building is a bad imitation of the Laul Baugh at Seringapatam, being inferior both in extent of accommodation, and elegance of architecture, and is now in a complete state of dilapidation. The fall in the thermometer which stood at 98° at Royachooty, to 88° at Gorremcondah, was delightfully refreshing. The mountain of Gorremcondah is one majestic, almost perpendicular mass of granite, towering to the height of about 8 or 900 feet. The rock is throughout naked, and its convex summit is crested with a strong fortification, constituting a formidable hill-fort, inaccessible, save on the eastern face, where a narrow difficult pathway winds through a defile of projecting rocks which, through the disintegrating influence of ages, have been rent from the mountain. Here stood once the capital of the district of Gorremcondah (at present comprehended in that of Cuddapah,) but now a heap of shapeless ruins, the haunt of beasts of prey, such as jackals, hyenas, &c. and the source of deadly malaria, the noxious influence of which is seen in the sickly and dropsical appearance, the premature senility, the anasarcous extremities and enlarged spleens, of the squalid and thinly scattered population of the neighbouring country, which though much more elevated than that of Royachooty, is over grown, particularly between the hills, with low dense jungle, while the country about Royachooty, is perfectly open and free from underwood. The natives too complain of the water being bad, and it is certainly much imbued with saline materials. At 5 P. M., on the 6th, left the palace and having arrived next day at Muddenpilly, 23 miles distant, was no less astonished than delighted, to find within so short a distance from the burning plains of Cuddapah, its perfect contrast in scenery, and climate. Here are two small bungalows, enclosed in an ample park of several acres, planted on either side with the most magestic banyans, around is a lawn of beautiful green turf ; in the heat of the day the thermometer did not rise above 87°, and the air free refreshing, soft and balmy, and imparted an elastic and exhilarating influence both to body and mind. The gardens produce grapes, both of the green and purple varieties, as well as peaches, strawberries, apples and guavas. Another striking instance of the contrast between this climate and that of Cuddapah, is the backward state of the season here. Mangoes do not ripen until July, and are pulled *green* to be ripened *artificially*. The cholum and raggy crops, which are stacked in the end of February at Cuddapah, were not yet reaped, water was found to boil at 208° of Fahrenheit, the elevation may therefore be stated at 2,120 feet above the sea, and about 1620 above Cuddapah.

is joined by the Papugny, coming from the opposite direction. This last river arises in the hills east of Muddenpilly, and emerges from them at Vaimpully. Through the sandy bed of this river, which is about 100 feet in width, with precipitous banks, the 28th Regiment passed round these hills on route from Cuddapah to Mercara, via Royachooty in February 1838; the ghaut above Bakrapett being impassable, owing less to the steepness of the ascent, which is only between 7 and 800 feet above Cuddapah, than to the state of the road.

Two nullahs having their sources in the hills to the south-west of Cuddapah, run in a north-easterly direction. The more western of them, the Boogawunkah, winds immediately in front of the regimental lines, (see sketch No. 2) where it is from 20 to 30 yards in breadth, but is never full unless in very heavy and continued rains, when its depth is between three and four feet; its rise and fall however, are very rapid, and in dry weather it is merely a chain of small pools. Its bed being deep, having in it numerous quicksands, and there being no bridge across, it prevents the evening drive being extended in the direction of the town of Cuddapah. The other nullah, called the Cuddapah river, is much larger, and sweeps immediately along the west of the town, which it supplies with water. Across the latter which is about 40 yards in width, there is a bridge, along which the road to Bellary passes,; and a little to the north, both the nullahs converge, and ultimately uniting, disembogue themselves into the Pennar four miles north of Cuddapah.

Proceeding east, the next rivers which discharge their waters into the Pennar, are the Sugglear and the Chegar. The districts south of the Pennar, are drained by the Papugny, and the Chegar rivers, and their tributaries; and the valley of Cuddapah, by the two mountain streams above described; while the country to the north, is drained by the Coond and Sugglear, with their respective streams.

With the exception of the Pennar, none of these rivers much exceed 150 feet in width, their beds are generally sandy.

with low banks, the Pennar however, which runs through a soft soil, and is 80 yards in breadth, has banks in some places upwards of 16 feet in depth; the current, owing to the country being nearly a perfect level, seldom exceeds two miles an hour, though the mountain streams are as usual rapid. In seasons of drought, which not unfrequently occur, some of these streams become rapidly dried up, when the vegetable and animal deposits in them, are exposed to the intense rays of the sun, and prove a source of miasm, this circumstance appears to contribute to the origin and prevalence of epidemics in such seasons. In the hilly parts of the district, their banks which are fringed with low dense jungle, are composed of rocks, and detritus, but in the plains, they sweep along gardens and cultivated fields, numerous wells being excavated on their banks.

Tanks. Tanks are also every where to be seen, in which fish are both few and bad, though highly valued by the inhabitants.

Climate. The most prominent characteristics of this climate, are, intense heat during the day, with oppressive closeness and stagnation of air, at night. These two conditions of the atmosphere, go far to explain its enervating influence on the European constitution. The temperature is not only one of the highest known (the mean, in the shade, during the year, being 81° 4″, the maximum 98°, and the minimum 65°,) but the daily range within doors, is very considerable, being from 15° to 20°, and the difference of the annual extremes 33°.

The year may be divided into three seasons, viz: the cool, the hot and dry, and the hot and humid.

1st. The cool season commences in October, and continues till February; about the end of October the north-east monsoon sets in, generally with thunder storms, and vivid lightning, preceding a heavy fall of rain.

In 1837, the rain set in in October, and continued with little cessation until the 12th November, being the heaviest fall known for 30 years.

About the end of November the monsoon generally ceases, but in some years it fails altogether. During this season the wind is steady from north east, and the weather is exceedingly pleasant, the whole country is under cultivation, and the luxuriancy of the crops every where, testifies the fertility of the soil. The mornings are cool, the thermometer in the open air, at 5 o'clock A.M. being often as low as 60°, and in the shade, between 65° and 70°, the mean temperature being 77°, the maximum 89°, and the daily range from 15° to 20°. The atmosphere is particularly clear, and the nights cool; towards the middle of February, the weather begins to get hot, and Europeans cannot remain out of doors later than 8 o'clock A.M.

2d. The crops in the valleys are all reaped and stacked in February, and in March the country begins to present an altered appearance, and as the month advances, the wind blowing strongly from the east, becomes hot at midday, but the nights continue cool for some time; as the season advances vegetation disappears, the grass becoming burned up, and the country at last resembles a dreary, sandy waste.

In April and May, the atmosphere glows intensely; and the rapidity of evaporation, particularly in the latter month, is shown by the state of the tanks, whose slimy beds become exposed to the rays of the scorching sun. In April the air is almost perfectly calm, interrupted only by occasional, light, uncertain airs during the day, which fail altogether at night, and the heat of the still atmosphere, becomes increased by radiation from the neighbouring rocks,* which form a screen intercepting ventilation. It is impossible to sleep within doors at this season, and even in the open air, the nights are often passed in a feverish and restless state; in May, the nights are likewise oppressive, for, though the regular hot winds set in from the westward, about the 3d of that month, by which, through the medium of wet tatties, the house during the day, can be made tolerably cool, after sunset the winds fail altogether.

* That the immediate vicinity of the hills has the effect of rendering the nights so hot at Cuddapah, is evident, from the fact, that in all other parts of the district, as well as throughout Bellary, the nights are found to be cool.

The mean temperature of this season of the year, is 84° 8″' the minimum 69°, and maximum 98°, in the shade.

3d. The south west monsoon sets in early in June, several days before which the weather becomes close and oppressive, and the sensation of suffocating heat at night, is almost insupportable, respiration becomes laborious, and the mind is dejected from the stagnant, and condensed state of the atmosphere. At length flashes of lightning are seen, and loud distant peals of thunder are heard rolling on, increasing in frequency as the rain commences, which continues to fall in torrents for some hours, cooling and refreshing the atmosphere. These visitations however are often very partial, and confined to the neighbouring hills, whilst the valleys are scorched with heat, and enveloped in clouds of dust, which being almost in an impalpable state, and driven along by the winds, penetrates into every crevice. During this season a strong south-westerly wind blows all day, and as the rain is seldom sufficient to saturate the surface, the whole atmosphere is darkened with clouds of fine sand, which even closed doors, and glass windows, fail to exclude. At sunset the wind usually moderates, and subsides into an oppressive calm, still more distressing from the air being humid, thus increasing the relaxation and exhaustion, consequent on want of sleep.

Cuddapah being upwards of three times the distance from the western, that it is from the eastern coast, and in a valley 300 miles north-east of the mountains of Coorg, from which direction the periodical winds blow, is most unfavorably situated, with respect to the south-west monsoon; for long before the rains can reach it, they have been almost entirely arrested by, and expended on the lofty chain of the western ghauts. That this is actually the case, is evident from the fact that, even at Fraserpett, only 19 miles east of Mercara, the capital of Coorg, and 1300 feet lower; the average fall of rain in the south west monsoon, seldom attains 40 inches, whilst at Mercara, it generally exceeds 100; if therefore, the difference be so great at the distance of 19 miles, it must of necessity be much greater at Cuddapah; besides, the elevated plateau of Mysore intervening, farther intercepts

the rain, and the little that reaches to the neighbourhood of Cuddapah, is interrupted by the surrounding hills. During this season, which comprehends from June to September, the mean temperature was observed in the year 1838, to be 83° 4″, the maximum 95°, and the minimum 72°.

From the above general description of the climate of Cuddapah, it may be inferred, that it cannot be otherwise than unfavorable to the European constitution, as well from the prevalence of malaria in the neighbourhood, the intense heat, unavoidable confinement within doors, the want of exercise, and often sleepless nights during a considerable portion of the year. Its effects therefore, sooner or later become visible, and during the years 1837 and 1838, in which the 28th Regiment N. I. was stationed at Cuddapah, every officer of the corps, suffered more or less from the effect of climate; and two were in consequence obliged to return to Europe.

Shortly before leaving Secunderabad for Cuddapah, the same corps suffered severely from epidemic fever, and agreeably to what has been often observed to result, the change from a good to an indifferent climate improved the health of the Regiment for sometime; but proofs of its unhealthiness soon became frequent, for when cholera or other epidemic diseases prevail in the country, Cuddapah always suffers severely.

Soil. The soil of the extensive plains to the west and north of the district, consists of a rich black cotton loam, but in the vicinity of the hills, and in the valley of Cuddapah, it is overlaid with an alluvial deposit, the debris of the neighbouring rocks, comminuted to an impalpable powder, rendering it light and sandy, and in some places it is intermixed with an adhesive reddish earth.

Geological remarks. The eastern and western ranges of mountains consist chiefly of gneiss, overlaid with sand stone, and syenite; the beds being variously contorted, and intersected with veins of green stone.

The principal rock in the southern ranges is granite, with

gneiss and mica slate, all more or less in a state of decomposition.

The soil on the whole, is generally very productive, when a sufficient quantity of rain falls, but Doopaud, the most northerly talook, bordering on the Kurnool and Guntoor districts, has been very much depopulated of late years, in consequence of a general failure of rain, causing emigration.

Nodulous lime stone, and potter's earth, are plentiful throughout the district, and a speices of coarse marble, of a blue colour, and which is easily cut, is abundant, and is used at Cuddapah for the flooring of houses.

A coarse kind of purple clay slate, is very common in Doopaud and the hills north of that talook, bordering on Paulnaud, and the Kistnah. In the valley of Cuddapah it is found in horizontal beds, several feet beneath the surface, in a soft state, but on exposure to the air it becomes hard, and wells are generally faced with it. Soda is found in the form of an efflorescent carbonate, in a red ferruginous soil in the valleys, as well as about Cuddapah; it is used instead of soap by the natives, and the *Dhobies* manufacture soap from it, by the addition of chunam and cocoanut oil, to the concentrated ley. The soft mass is placed in segments of cocoanut shells, and exposed to the sun, till it hardens into a cake. Nitrate of potash, and the chloride of soda, are also found in great abundance, both being intermixed with reddish soft earth, incrusting the surface. These salts, particularly the latter, which is most abundant, are extracted by lixiviation, and evaporation. Numerous pits for this purpose are seen excavated in several parts of the plains, surrounded with mounds of earth; the salt thus obtained is very impure, and scarcely fit for culinary purposes.

Boring experiments have of late years been made in various parts of India, principally with the view of forming artesian wells, but no trials have been made yet in the Cuddapah collectorate, with the view of discovering coal, although the formation, in many situations, presents geologically speaking

more favorable indications of the existence of this valuable mineral, than any other part of the Madras presidency. This for the most part is of sand stone, varying in its structure, from a quartz rock, to a conglomerate and loose grit, of various shades, from white to deep red, and some times beautifully variegated, as in the vicinity of Sedhout; it usually rests on lime stone of a deep blue colour, containing iron pyrites, and veined with calcarious spar.

The soil on the surface contains much calcarious and saline deposits, consisting of natron, and chloride of soda; copious springs of pure water, which possibly may have their source in subjacent coal beds, flow from both descriptions of rock. The Cuddapah sand stone resembles the carboniferous arenaceous rock of Cherra Poonja, on which a bed of coal is seen to rest, on an insulated summit, 300 feet above the level of the sea. The coal fields of Burdwar and Palamow, both repose on low hills of sand stone. In age it appears to assimilate more to the old red or carboniferous sand stone of England, than to the new red formation, to which it has been compared, and as far as has been hitherto discovered, is non-fossiliferous.

It is also remarkable as being the matrix of most of the diamonds, for which Golcondah has long been celebrated; may not the presence of this gem, which is the purest mineral carbon known, therefore, indicate the existence of carbon in another form?

From the above cursory remarks, it is not intended to draw the inference that the formation of coal over the whole surface of the globe was simultaneous, or that this mineral must necessarily exist in the Cuddapah formation, but by a plain statement of local geological facts, to draw attention and excite investigation to a subject of interest; science too, would undoubtedly reap some fruits from the knowledge obtained of the different strata penetrated, and even illustration might be thrown on the ingenious views of such men as M. Marago and Bischoff, regarding the internal temperature of our planet.

Water. Well water throughout the country, is strongly impregnated with the saline products of the soil, and as these become more concentrated by rapid evaporation in the hot weather, it then becomes quite unfit for domestic uses; Europeans are therefore obliged to procure drinking water, from a distance of from one to three miles from Cuddapah.

The natives generally make use of river or tank water; but though more free from saline impregnations, the latter in particular often holds in suspension a large proportion of earthy matter, and from being stagnant is moreover generally contaminated with various animal and vegetable matters in a state of decomposition.

The natives attribute many diseases to the quality of the water, and in this opinion they are neither altogether singular, nor perhaps far from the truth. Galen ascribes Elephantiasis, which Alpinus informs us, is endemic in Egypt, to the impure waters of the Nile; and Lucretius says "est elepas morbus qui propter flumina Nili gignitur, Ægyto in medio"; and Dr. Cleghorn states, that hard water has a tendency to produce diseases of the *spleen* in certain animals, especially sheep, which is the case he says, on the eastern side of the island of Minorca!—an opinion adopted by Dr. Paris, (article "aqua.") The latter also informs us, that pigeons refuse hard water after being accustomed to that which is soft; and snipe have been known to avoid those paddy fields and swamps, which were irrigated with water containing saline ingredients, to which cause, the well known scarcity of these birds in the district of Cuddapah, may be attributed.

Causes of Fever. With respect to Cuddapah, it is found that noxious exhalations, the existence of which are inferred from certain effects on the animal economy, are most prevalent from the end of June, to the end of January, because the extrinsic agents most influential in favouring the evolution of those emanations, in soils and situations capable of engendering them are *then* most active in *this* district, namely intense heat, acting on a wet surface. Hence, from February to the

end of May, malarious diseases, are less frequent, from the atmosphere being dry, and the whole country burned up.

The probable sources of Malaria, under the operation of heat and moisture, such as extensive and dense jungles, on and around the hills, muddy and slimy beds, of half filled tanks and wells, and marshy ground under wet cultivation, are numerous. The nature of the manure employed throughout the district, namely green boughs of trees, may also be enumerated as another source of disease, and turning up such ground, has been found in the West Indies to be a very dangerous operation; Cassan describes it as sometimes producing fevers which resemble an absolute plague, the labourers even dying on the spot, if they attempt to remain at night on the ground which they have broken up during the day. With these may also be classed the preparation of indigo; the neighbourhood of such manufactories being unpleasant in the extreme, from the offensive smell of vegetable matter undergoing decomposition, and its noxious influence is still further propagated, by its being used as manure.

The saline nature of the soil it is believed, also exerts an injurious influence on the nature of the poison, as it is well known, that estuaries particularly within the tropics, are generally productive of the worst forms of malarious fevers.

With reference to the diffusion of these emanations at Cuddapah, it appears certain, that its particular position with respect to the mountains in the vicinity, and the sloping plains on its west, by which it is placed in a bason, must have the effect of preventing its dissipation.

The south west wind also blows towards it, across a dreary plain, which is quite a marsh for several months.

Lastly the greater prevalence of malarious disease, from June to the end of September, is also attributable to sudden atmospherical vicissitudes; part of the nights being so close and oppressive, as often to compel both Europeans and natives, to quit their houses for the cooler atmosphere out side,

and which is succeeded perhaps in a short time, by a bleak cold wind, blowing from the hills to the south west saturated with moisture; which acting on an exhausted and relaxed frame, bedewed with perspiration, is extremely apt to occasion fever.

Vegetation which commences after the first rains in June, or after occasional showers, often becomes again burned up by returning drought, before the setting in of the N. E. monsoon. In the hills,however, where the rains are more constant, the surface becomes covered with rank coarse grass, part of which is set fire to in February, and part preserved for thatching houses.

After the first showers in June, the ground is ploughed preparatory to laying down both dry and wet grains. The manure used for the dry crops consists of ashes and sheep's dung, that of the oxen, owing to these animals being held sacred by hindoos, is reserved for fuel, and for plastering the walls and floors of houses, but the quantity of manure is every where insufficient. Between June and August, should the supply of water in the tanks be sufficient, the soil for wet cultivation, having been previously ploughed and harrowed once or twice, is manured, with the green boughs of trees, which are embedded in the soft earth and the fields then laid under water; after decomposition has begun the water is drawn off, the grain is sown, and the fields are again laid under water, which is occasionally renewed as it becomes dried by evaporation, until the crops are nearly ripe.

Of the principal vegetable productions, paddy and jonaloo, are sown from July to September, sudjaloo in June, and all others in September.

The extensive plains of black soil to the north-west, produce large crops of cotton, wheat and indigo. The talooks which chiefly supply rice are Cumbum, Chinnoor, and Camlapoor. In the other parts of the district dry grains, such as cholum, raggy, &c. are principally cultivated.

In the gardens about the town of Cuddapah, but principally in the Muddenpully talook, sugar cane, tobacco, turmeric and betel leaf are grown. At Muddenpully, probably the best and purest sugar candy to be found in the Madras provinces, is manufactured, a large quantity of which is exported. It has been sold at Bangalore as China sugar candy, to which it is equal, except in colour.

All the usual kitchen garden vegetables common to the country, are procurable, the gardens being watered from wells. The climate however is unfavorable for horticulture, as far as regards European vegetables which do not thrive, owing to the intense heat of the meridian sun, and want of rain.

Though wood is scarce in the vicinity, there are however many large mango, peepul, and tamarind trees to be seen, which, when the plains are covered with cultivation, give the face of the country a pleasing appearance.

Fruits. The fruits most abundant, are the mango, tamarind, plantain, water melons in great variety, and pumplemoses. In some gardens in Muddenpully the guava, lime, pomegranate, peach, apple, grape and citron are found, but may be considered as exotics.

Wild animals. Wild animals are not numerous, those met with are the jackal, fox, hare, antelope, hog, and wolf; the two first only, are found in the plains, in which no game, unless a few snipes, florikin and rock pigeons are seen, in the cool season; the others frequent the hills, together with a few red legged partridges, jungle, and spur fowl. Sometimes a stray tiger, or panther are heard of in the plains, but are soon destroyed by the inhabitants.

Minerals. Besides the mineral products already mentioned, iron is very abundant in the hills, but is not exported, sufficient for internal consumption merely, being smelted. Lead and copper are also found in some situations.

There are likewise diamond mines, about 7 miles from Cuddapah, between Chinnoor and a range of hills, on either side of the Pennar river. They consist merely of pits rudely excavated, and surrounded with heaps of stones. The diamonds are said to be found in alluvial soil, and in rocks of the latest formation; the mines have not been worked of late, and from being known for several centuries past, it is probable they are exhausted.

Roads. The principal roads are, one to Madras being the continuation of the Bellary road, it is the best in the district, and is provided with good bungalows for travellers, at regular stages. It runs first east and by south to Wontimettah, and crosses the Chegar river, on the left bank of which at Nundaloor, is the third bungalow from Cuddapah.

The Bellary road was originally made when Sir Thomas Munro was collector of the Balaghaut districts, but it is much cut up, and in need of repair. It is planted on both sides with large trees, principally the peepul and neem, which afford a pleasant shade; but, as it runs chiefly through black cotton soil, it is nearly impassable in heavy rains, and in the vicinity of the cantonment, is a bed of fine sand several feet in depth; on this road there are also good bungalows at regular stages.

The Hyderabad road, via the Moorcondah ghaut, scarcely deserves the name, it runs nearly due north from the cantonment.

The Nellore road takes a due east direction, and is also very rocky and stony.

The Bangalore road proceeding south-west from Cuddapah, is nearly impassable for carts, in several parts it runs between narrow rocky defiles, over hilly and often mountainous country.

There are two roads connecting the cantonment and town of Cuddapah, first, one passing through the centre of the re-

gimental lines, which is the most direct, and crosses the bridge over the Cuddapah river, thence passing through the town and fort to the civilians' lines; the other, which is very narrow, runs along the left of the regimental lines, and turning to the south is intersected by the deep sandy bed of the Boogawanka, and finally winding to the east, is again intersected by the still broader bed of the Cuddapah river, whence it proceeds to the civilians' lines, leaving the town on the north.

Endemic and Epidemic diseases.

Malarious fevers are usually of the quotidian type. The exciting cause of which in most instances, has been exposure to atmospherical vicissitudes; in ordinary cases it yields to simple treatment, such as emetics, mild aperients and bark, or sulphate of quinine.

Dysentery.

This disease, as it occurs in the valley of Cuddapah, is frequently either a sequel of fever, or complicated with it, but in cases to be noticed hereafter, it appears also to be caused by a malarious and very humid atmosphere; and this form of disease is seen most frequently in the hilly districts.

In natives, dysenteric affections are removed by means of a few leeches, and a blister to the abdomen, mild aperients and the use of the sulphate of quinine, with vegetable and mineral astringents, and opium.

In two cases which occurred amongst European officers, in 1836 and 37, one was of a mild form, having readily yielded to the use of the blue pill and ipecacuanha, with an occasional dose of castor oil; but the other, which was complicated with disease of the liver and lungs, ultimately proved fatal.

Hypertrophy of the spleen, is, like dysentery, the result of malarious fever, especially if the fever proves obstinate; the intermittents of the hilly districts however, appear to have a greater tendency to produce splenick affections, than those occurring in other situations, where fevers are not less frequent; occasioned it would seem by circumstances not as yet well understood; and these engorgements occur, in cases

where the paroxysms of fever have been comparatively slight. "In moist countries," says Dr. Bigsby, "whether warm or temperate, diseases of the spleen are endemic, as in Italy, Holland, South America and some parts of India, in fact where-ever malaria exists;" accordingly in the valley of Cuddapah, where fever is very general, the disease in question is but rarely seen, whilst it is remarkably common in the hilly or mountainous talooks of Gurrumcondah and Muddenpully, where the climate is more moist.

The most approved treatment consists in the employment of a combination of aperients, with iron and tonics, which had been laid aside in Great Britain in favour of mercury, until recently. The good effects of mercury as a deobstruent, in chronic diseases of the spleen, are of doubtful efficacy, more particularly when a cachectic state of the system is present. In order to relieve the engorgement of the viscus, local bleeding with leeches, when the strength of the system admits of their use, and subsequently counter irritation by means of blisters, as well as the frequent use of warm purgatives and bitters, is the most approved mode of treatment. When the pain, tension, and weight have been relieved by such means, iron, quinine, and iodine, are then found to produce the best effects.

Anasarca. Anasarca is very common in the districts in which affections of the spleen are prevalent, and is almost invariably the result of organic visceral disease. The most efficacious mode of treatment is found to be the use of a combination of aperients, diuretics and tonics, but above all things, change of climate is most essential.

Hepatitis. Hepatitis is very rarely seen amongst natives, to whose constitutions the climate in this respect does not appear obnoxious. Two cases occurred in 1836 and 37, amongst the European officers of the regiment at Cuddapah, which appeared to be occasioned by the effect of heat.

Health of European children. The climate is found to be unfavorable to European children, in whom the gastro-intestinal functions, be-

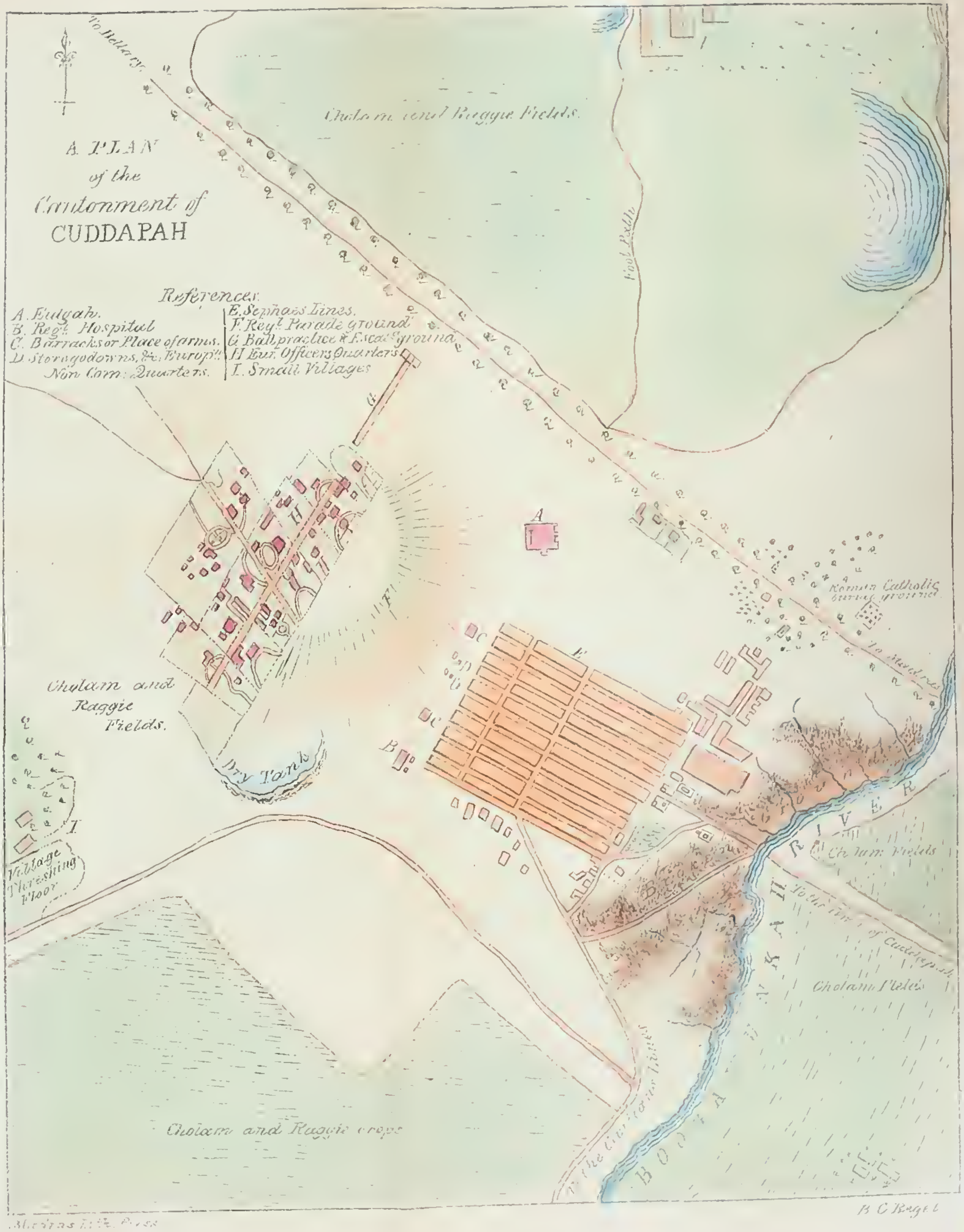
come torpid, and otherwise disordered ; irritation supervenes and is followed by dysentery, tabes mesenterica, and general atrophy. The only effectual remedy in such cases, is found to be an immediate removal of the patient to the sea coast.

Abortion &c. Abortion and menorrhagia, are very common both in European and native females.

Rheumatism. Rheumatism is very prevalent in natives, the exciting cause, of which in most instances, can be traced to exposure to atmospherical vicissitudes. It is generally seen in the chronic form, and unattended with constitutional disturbance ; though in many cases, accessions of local inflammation eventually induce disorganization of the tissues of the joints, the ligaments becoming thickened, with depositions in the bursæ. But agreeably to Cullen, another form of the disease is seen, in which there is "*tumor plerumque nullus*," acute local pain being the only complaint. These cases however are more neuralgic than rheumatic, for they soon yield to anodyne liniments, and a few doses of the carbonate of iron; whereas, the other form of the disease, requires local bleedings and vesications, bark with the mineral acids, or decoction of sarsaparilla, guaiacum and mercurial alteratives, in the treatment.

Psora. Psora is very prevalent in the hot season, the result of the combined influence of want of cleanliness, and the saline impurities of the water.

Cholera. Cholera appeared in Cuddapah, as an epidemic, in the middle of October 1837, simultaneously with the arrival of a number of pilgrims from Triputty, where it had been raging to a great extent; but though there was a daily communication between the town and the regimental lines, the disease did not extend to the latter, until the 1st. November, when a heavy fall of rain from the north-east occurred. It did not however prevail extensively in either place, but was both rapid in its course, and fatal in its result. Fortunately very few cases occurred amongst the sepoys of the regi-



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ment. Cholera again made its appearance in 1839, and 1841 and was more fatal.

In Mr. W. Scot's report of this disease, cholera is recorded as having made its first appearance at Cuddapah on the 9th December 1818, eight days later than at Triputty, from whence it appears at that time also to have extended to Cuddapah.

Barracks. The barracks, are two substantially built detached buildings, see sketch of cantonment, lying parallel with each other, built of brick and chunam, and tiled. The soil on which they stand is sandy, and the site being a gentle declivity, they are well drained; and, lying north and south, are open to the periodical winds.

The building on the right of the lines, is 60 feet long, by 16 feet broad within the walls, which are 11 feet high; it has thirteen folding doors, and seven windows.

That immediately on the right of the hospital, is also of the same dimensions, but has only ten folding doors, and two windows.

Serjeant's quarters. The serjeants' quarters lie between the right wing of the barrack, and the store room. They consist of two rooms, each 14 feet by 17, and 10 feet high, with two folding doors, and four widows.

There are two solitary cells, each eight feet square, and 16 feet in height, with two doors, and two windows, situated on the left of the hospital.

Hospital. The hospital is on the extreme left; and is built of like substantial materials, but its site is much lower than that of the barracks, and the soil near it is impregnated with salt-petre; the floor is not sufficiently elevated and water lodges around during heavy rains. The hospital lies parallel with the other public buildings, and having ventilators in the roof, is always well aired. It is supplied with

water from the river in rear of the lines, except in the hot season, when it is procured from a large well, but as in the other wells in the cantonment, the water is brackish.

The dimensions of the hospital are, length 88½, breadth 19½, and height of walls 11 feet; it has two folding doors, one on either side, and 17 windows. The native sick prefer lying on mats placed on the ground, to cots, and but for the low situation of the hospital, cots in so dry a climate would be unnecessary. A surgery is divided off one end, which is 8½, by 19½ feet.

The ground to the left, for some distance, is uncultivated, but beyond that, fields of raggy and cholum extend to the south-west, and in front and between it and the officers' lines, is a large dry tank which should be filled up, being a receptacle for filth, no disease has however been attributed to the locality of the hospital.

The following table exhibits the amount of diseases and mortality, *which have occurred* amongst the native Troops *at this station,* during a period of nine years and six months; from 1829 to 1841. It includes the returns of those regiments only who have occupied the station during a period of six or twelve consecutive months.

No. 14.—*Table exhibiting the number of Admissions and Deaths, amongst the native Troops stationed at Cuddapah, during a period of nine years and six months, from* 1829 *to* 1841.

Aggregate Strength. 8183. CLASSES.	DISEASES.	Admissions.	Deaths.	Total admissions from each class.	Total deaths from each class.	Per centage of sick to strength.	Per centage of deaths to sick.
Fevers......	Febris ephemera	1661	1	2948	20	34 ·751	0 ·678
	,, intermit quot.	1017	11				
	,, tertiana.......	98	1				
	,, remittens	138	2				
	,, com : cont....	34	5				
	Cholera	136	62	136	62	1 ·603	45 ·589
Diseases of the abdominal viscera......	Diarrhœa.......	69	1	269	6	3 ·171	2 ·230
	Dysenteria acuta et chronica.	96	0				
	Obstipatio..	6	0				
	Colica..........	12	0				
	Dyspepsia......	67	3				
	Hœmorrhois....	6	1				
	Icterus.........	5	1				
	Splenitis........	3	0				
	Hepatitis.......	5	0				
Diseases of the Lungs	Catarrhus......	20	0	73	15	0 ·860	20 ·547
	Asthma........	16	3				
	Phthisis pulmonalis.........	3	1				
	Pneumonia.. ..	26	8				
	Hydrothorax.. .	2	2				
	Dyspnœa.......	6	1				
Diseases of the Brain.	Apoplexia......	4	3	35	4	0 ·412	11 ·428
	Paralysis........	6	0				
	Amentia..	8	1				
	Mania..........	16	0				
	Delirium Tremens.	1	0				
Eruptive fevers......	Variola.........	10	2	68	2	0 ·801	2 ·941
	Varicella.......	53	0				
	Rubeola..	4	0				
	Erysipelas......	1	0				
Dropsies....	Anasarca.......	24	3	35	5	0 ·412	14 ·285
	Ascites.........	11	2				
	Rheumatismus.	476	3	476	3	5 ·611	0 ·630
Venereal affections..	Syphilis primitiva...........	222	0	391	0	4 ·609	0 ·000
	,, consecutiva..	20	0				
	Gonorrhœa.....	86	0				
	Hernia humoralis............	59	0				
	Strictura urethræ.........	4	0				
Specific diseases......	Atrophia........	12	2	81	4	0 .954	4 ·938
	Lepra..........	4	0				
	Dracunculus....	48	0				
	Scrophula.......	12	1				
	Beriberi........	5	1				
Diseases of the Eye..	Morbi oculorum	107	0	107	0	1 ·261	0 ·000
Do. Skin.	,, cutis......	187	1	187	1	2 ·204	0 ·000
	Other diseases...	1124	1	*1124	1	13 ·250	0 ·089
	Total....	5930	123	5830	123	69 ·904	2 ·074

+ 14 cases of Cholera with 8 deaths in 1839.
87 do. 35 do in 1841.

NOTE.—Per centage of deaths to strength 1·500.

* Of this number were Phlogosis 460 and one death, and 311 cases of Ulcus.

Monthly abstract of a daily atmospherical Register kept at Cuddapah, from 1st January to 31st December 1836.

Months.	Mean height of the Thermometer.	Extremes of Thermometer.		General Remarks.
		Max.	Min.	
January........	75° 5	86° 0	65	During the month the wind blew uniformly and steadily from the north east; some dew deposited, occasional fogs in the morning, the weather calm and pleasant.
February..	77° 0	88° 0	66° 0	Wind from west, and light to the middle of the month, when it became variable, and strong, latterly it veered to east and by north, with white clouds.
March.	81° 0	93° 0	69° 0	East and north east winds prevailed, strong, and hot occasionally, with some clouds, rain on the 25th. The thermometer ranged under a thermautidote, 84° to 86°.
April..	86° 0	96° 0	76° 0	Wind chiefly east but variable, nights close and hot, when the thermometer stood at 90° with open doors, some rain on 25th with thunder.
May............	88° 5	98° 0	79° 0	Wind still variable until the 3rd, when the regular hot winds set in from the west, nights hot and close.
June............	87° 0	95° 3	79 1	Until the 10th the wind continued to be variable, when the south west monsoon set in, with much thunder and rain.
July............	83° 5	94° 0	73° 0	Wind continued south west, nights and days close with occasional rain, chiefly at nights. Fever prevailed about the latter end of the month.
August....	82° 2	92° 5	72° 0	Weather cool and cloudy, a heavy fall of rain on the 11th, and from the 20th, heavy and general rain—wind westerly and light.
September	81° 0	90° 0	72° 0	Wind variable generally from the west, no rain in the early part of the month, but from the 15th much rain fell, chiefly during night with thunder.
October........	75° 5	89° 0	70° 0	No rain in the month, wind north east, nights cool, as also mornings evaporation rapid, clear and some clouds, and on the 31st a perfect hurricane all night, and torrents of rain, many trees blown down.
November......	77° 0	85° 0	67° 0	Weather very clear and pleasant within doors nights cool, much rain on the night of the 4th, a few showers afterwards during the month.
December......	81° 0	80° 0	65° 0	Weather calm and cool, no rain, some dew.

Monthly abstract of a daily atmospherical Register kept at Cuddapah, from 1st January to 31st December 1837.

Months.	Mean height of the Thermometer.	Extremes of Thermometer.		General Remarks.
		Max.	Min.	
January........	85° 5	86° 0	65	Weather nearly the same as last year.
February..	88° 0	89° 0	66° 0	Same as last year.
March.	87° 0	94° 0	69° 0	Do. do. do.
April..	83° 5	96° 0	75° 0	As last year.
May...........	88° 0	98° 0	78° 0	As last year.
June...........	87° 0	95° 0	79° 0	As last year, but nights intensely hot and close until the 18th, when a heavy fall of rain occurred from the south west, having been preceded by very strong wind sweeping along clouds of dust and sand, from the south west.
July...........	83° 5	94° 0	73° 0	Weather the same as last year, but hot and close with occasional showers.
August....	85° 0	98° 0	72° 0	Up to the 10th nights intensely close, but days rather pleasant—heavy fall of rain with much thunder, on the 9th and 10th, lightning and drizzling rain, with little intermission from the 14th to 20th.
September.	82° 0	92° 0	72° 0	Wind north east. Intensely close both day and night.
October........	84° 5	89° 0	70° 0	Continued to be close at nights until the 22nd, when some slight rain fell—wind south west and cloudy up to the 27th, when a heavy rain fell at night, and cooled the weather, cholera prevailed at Cuddapah on the 4th.
November......	75° 5	84° 0	67° 0	Rain very heavy up to the middle of the month, which has not occurred for upwards of thirty years, probably about 30 inches fell, during which period cholera prevailed at Cuddapah and in the neighbouring villages, and to a less extent in the regimental lines.
December......	72° 5	80° 0	65° 0	Weather cool and calm, nearly the same as last year.

Jail. The jail stands nearly in the centre of the old fort; the site being slightly elevated and considered to be salubrious. It was erected in 1813, and consists of several buildings in separate and spacious enclosures, for the various classes of prisoners, viz. male and female convicts, prisoners waiting for trial, civil debtors, and the hospital; the whole being surrounded by a wall, at some distance, twelve feet high.

The cells are 48 in number, and of various sizes, the average dimensions being about 17½ by 7 feet; they are built *dos a dos*, and are low and terraced, with sloping tiled fronts, or verandahs; there is no wall between the interior terraced portion, and that which is tiled, and the latter is open, being strongly barred with wood. Many of the cells are on a level with the surrounding ground, the sewers however are well arranged, and the drainage is good, and all the cells are kept perfectly clean. The supply of water is abundant and good. The whole building is calculated to contain upwards of 600 prisoners.

For a description of the diet, clothing, labour &c. see statement at the end of the report.

The hospital which can accomodate 50 patients is a large building within the precincts of the jail, and is supposed to have been, in former times, a part of a khiledars residence. It is open in front, being only protected by a bamboo frame work, which is so contrived as to be easily lifted up or let down. The usual offices, and a place for the guard are attached, and the building is surrounded by a high wall.

In the following tables are shewn the nature of the diseases and amount of mortality, which have occurred amongst the inmates, during a period of ten years, from 1829 to 1839; they also exhibit the diseases classified, and point out the per centage of sick to strength, and of deaths to sick treated.

JAIL OF CUDDAPAH.

No. 15.—*Table exhibiting the number of Admissions and Deaths of the Convicted Prisoners, from each class of Disease for* 10 *years, from* 1829 *to* 1839, *exclusive of* 1831.

CLASSES.	DISEASES.	From 1829 to 1839, exclusive of 1831. Aggregate strength 3,905. 1st Half. Ad.	1st Half. Dd.	2d Half. Ad.	2d Half. Dd.	Admissions and deaths from each class of disease. 1st Half. Ad.	1st Half. Dd.	2d Half. Ad.	2d Half. Dd.	Total admissions from each class	Total deaths from each class.	Per centage of sick to strength.	Per centage of deaths to sick treated.
Fevers......	Febris ephemera	116	4	83	4	399	43	429	41	828	84	21 ·203	10 ·147
	,, intermit quot.	251	27	305	29								
	,, remittens. ..	29	12	38	7								
	,, com : cont...	0	0	3	1								
	Cholera.........	81	28	122	66	81	28	122	66	203	94	5 ·198	46 ·305
Diseases of the abdominal viscera......	Diarrhœa.......	61	23	142	50	132	38	212	70	341	108	8 ·809	31 ·395
	Dysenteria acuta et chronica..	43	14	60	19								
	Colica..........	25	0	9	1								
	Dyspepsia......	3	1	0	0								
	Hœmorrhois....	0	0	0	0								
	Hepatitis.......	0	0	1	0								
Diseases of the lungs	Catarrhus......	10	4	5	2	12	5	13	6	25	11	0 ·640	44 ·000
	Asthma........	1	0	1	0								
	Phthisis pulmonalis..........	1	1	2	1								
	Pneumonia.....	0	0	4	2								
	Dyspnœa	0	0	1	1								
Diseases of the brain.	Apoplexia......	1	1	2	1	8	2	6	1	14	3	0 ·358	21 ·428
	Epilepsia.......	4	0	0	0								
	Paralysis.......	1	0	1	0								
	Amentia........	0	0	0	0								
	Mania..........	2	1	3	0								
	Delirium Tremens.........	0	0	0	0								
Eruptive fevers......	Variola.........	40	13	16	1	71	13	61	1	87	14	2 ·227	16 ·091
	Varicella........	31	0	0	0								
Dropsies....	Anasarca.......	39	27	41	30	41	27	42	30	83	57	2 ·125	68 ·674
	Ascites.........	2	0	1	0								
Rheumatic affections.	Rheumat. acutus et chronicus	68	3	89	8	68	3	89	8	157	11	4 ·020	7 ·006
Venereal affections ..	Syphilis primitiva..........	3	0	3	0	6	0	6	0	12	0	0 ·307	0 ·000
	,, consecutiva.	1	0	2	0								
	Hernia humoralis..........	2	0	0	0								
	Strictura urethræ....	0	0	1	0								
Specific diseases.....	Lepra..........	1	0	0	0	96	9	55	4	151	13	3 ·866	8 ·609
	Dracunculus,...	72	0	50	1								
	Atrophia.	0	0	1	0								
	Scrophula......	0	0	1	0								
	Beriberi........	23	9	3	3								
	Morbi oculorum	40	1	18	0	40	1	18	0	58	1	1 ·485	1 ·724
	,, cutis.......	60	0	75	0	60	0	75	0	135	0	3 ·457	0 ·000
	Other diseases..	654	6	851	11	654	6	851	11	*1505	17	38 ·540	1 ·129
	Total..	1668	175	1934	238	1668	175	1934	238	3602	413	92 ·210	11 ·465

* Of this number were Phlogosis 297 with 1 death, Ulcus 685 with 10 deaths, and 415 admissions from punitus which seldom exceeds two dozen lashes.

JAIL OF CUDDAPAH.

No. 16.—*Table exhibiting the Number of Admissions and Deaths of the Prisoners under Trial, from each class of Disease, for 10 years, from 1829 to 1839, exclusive of 1831.*

CLASSES.	DISEASES.	From 1829 to 1839 exclusive of 1831. Aggregate strength 2523.				Admissions and deaths from each class of disease.				Total admissions from each class.	Total deaths from each class.	Per centage of sick to strength.	Per centage of deaths to sick.
		1st Half.		2d. Half.		1st Half.		2d. Half.					
		Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.				
Fevers......	Febris ephemera	46	0	29	5	100	6	106	33	206	39	8 ·164	18 ·932
	,, intermit quot.	48	4	53	14								
	,, remittens.....	6	2	23	13								
	,, com: cont....	0	0	1	1								
	Cholera........	40	16	54	31	40	16	54	31	94	47	3 ·725	50 ·000
Diseases of the abdominal viscera.......	Diarrhœa	18	1	60	22	60	7	126	39	189	46	7 ·372	24 ·731
	Dysenteria acuta et chronica..	34	5	62	17								
	Colica..	6	1	3	0								
	Dyspepsia......	2	0	0	0								
	Icterus.........	0	0	1	0								
Diseases of the lungs.	Catarrhus......	0	0	1	1	1	0	7	6	8	6	0 ·317	75 ·000
	Asthma........	0	0	1	0								
	Pneumonia.....	1	0	5	5								
Diseases of the brain.	Epilepsia	1	0	1	0	9	1	5	1	14	2	0 ·554	14 ·285
	Paralysis	2	1	0	0								
	Amentia	3	0	1	0								
	Mania..........	3	0	3	1								
Eruptive fevers......	Variola.........	2	0	7	2	17	1	9	2	26	3	1 ·030	11 ·538
	Varicella	14	0	1	0								
	Rubeola........	1	1	0	0								
	Erysipelas......	0	0	1	0								
Dropsies...	Anasarca.......	6	5	12	5	6	5	12	5	18	10	0 ·713	55 ·555
	Ascites.........	0	0	0	0								
Rheumatic affections.	Rheumat. acutus et chronicus	7	1	10	0	7	1	10	0	17	1	0 ·673	5 ·882
Venereal affections..	Syphilis primitiva..........	3	0	7	0	4	0	12	0	16	0	0 ·634	0 ·000
	,, consecutiva..	1	0	0	0								
	Gonorrhœa.....	0	0	1	0								
	Hernia humoralis...........	0	0	2	0								
	Strictura urethræ.........	0	0	2	0								
Specific diseases.....	Dracunculus....	11	0	12	1	13	1	13	1	26	2	1 ·030	7 ·692
	Scrophula......	0	0	1	0								
	Beriberi........	2	1	0	0								
	Morbi oculorum	2	0	5	0	2	0	5	0	7	0	0 ·277	0 ·000
	,, Cutis....	44	0	38	0	44	0	38	0	82	0	3 ·250	0 ·000
	Other diseases..	79	4	96	1	79	4	96	1	*175	5	6 ·936	2 ·857
	Total..	382	42	493	119	382	42	493	119	875	161	34 ·680	18 ·400

* Of this number were Phlogosis 30, Ulcus 82 with 3 deaths.

Remarks on the preceding tables of diseases.

Amongst the convicts the strength annually has amounted to 390, and the admissions have been 360, or 92·240 per cent; the annual number of deaths during the same period has been 41, or 10·576 per cent on the strength; the total admissions being 3602, deaths 413, from an aggregate strength of 3905.

The most numerous admissions have been from *fevers, cholera, bowel complaints, rheumatism, phlegmon, ulcers* and *punitus* in the class of other diseases; and the greatest mortality has resulted from *fevers, cholera, diarrhœa and dysentery, anasarca, rheumatism and beriberi.*

Amongst the prisoners waiting for trial, the admissions into hospital have principally been from *fevers, cholera, and bowel complaints;* and the mortality has been occasioned by the same diseases and *anasarca.* The total admissions have amounted to 875, with 161 deaths from an aggregate strength of 2523; the per centage of sick to strength being 34·680, and of deaths to strength 4·569.

In the following table No. 17, which has been drawn up similarly to that for the Bellary Jail, the annual admissions and deaths from the same diseases are exhibited, viz. fever, cholera, diarrhœa, dysentery, anasarca, rheumatism, atrophia, and beriberi. Here, as in the table alluded to, the total sick treated and mortality are also shewn, for the purpose of contrasting the proportion of deaths produced by these diseases; being 507 out of 574, or fully 7-8ths of the whole mortality.

Table No. 17, Jail of Cuddapah.		1829.		1830.		1832.		1833.		1834.		1835.		1836.		1837.		1838.		1839.		Total.	
		Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.
Convicts.	Fever	93	1	164	1	60	9	85	15	89	21	115	24	39	3	62	6	103	3	22	1	8·8	84
	Cholera	1	0	0	0	45	28	133	53	9	6	0	0	0	0	3	2	4	3	8	2	203	94
	Diarrhœa	7	1	16	0	15	1	93	42	21	16	14	5	4	2	9	4	4	1	17	1	203	73
	Dysentery	7	0	12	1	17	3	51	23	4	2	4	2	0	0	1	1	1	0	6	1	103	33
	Anasarca	1	0	0	0	6	5	31	19	28	26	3	1	3	3	8	3	0	0	0	0	80	57
	Rheumatism	26	1	31	0	21	1	27	2	12	1	4	0	2	0	4	3	17	2	10	1	157	11
	Atrophia	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	Beriberi	0	0	0	0	0	0	0	0	3	3	23	9	0	0	0	0	0	0	0	0	26	12
	Admissions and deaths from these diseases	135	3	224	2	167	47	420	154	169	75	163	41	48	8	87	19	129	9	63	6	1601	364
	Total admissions and deaths	387	4	652	6	385	50	696	165	342	93	277	43	188	12	243	21	211	10	191	8	3602	413
	Strength each year	310		375		463		553		668		512		309		335		169		211		3305	
under Trial.	Fever	11	0	19	1	27	4	56	25	0	0	10	0	9	2	8	1	42	2	24	4	206	39
	Cholera	0	0	0	0	7	3	77	38	0	0	0	0	0	0	0	0	0	0	10	6	94	47
	Diarrhœa	1	0	2	0	11	2	47	18	0	0	2	1	1	0	0	0	2	2	12	0	78	23
	Dysentery	5	0	5	0	16	2	64	20	0	0	0	0	0	0	0	0	1	0	5	0	96	22
	Anasarca	0	0	0	0	4	2	8	4	0	1	1	1	0	0	1	1	2	1	2	0	18	10
	Rheumatism	2	1	0	0	7	0	3	0	0	0	0	0	0	0	0	0	2	0	3	0	17	1
	Atrophia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Beriberi	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	2	1
	Admissions and deaths from these diseases	19	1	26	1	72	13	255	105	0	1	15	3	10	2	9	2	49	5	56	10	511	143
	Total admissions and deaths	56	2	67	1	126	14	303	116	0	2	33	3	31	2	36	2	91	15	132	14	875	161
	Strength each year	209		209		268		536		411		182		135		109		163		271		2523	
Admissions and deaths amongst both classes of prisoners		443	6	719	7	511	64	999	281	342	95	310	46	219	14	279	23	332	15	323	22	4477	574
Total Strength each year		519		584		731		1089		1109		694		444		444		332		482		6428	
Per centage of deaths to strength		1	·516	1	·198	8	·755	25	·894	8	·566	6	·628	3	·153	5	·180	4	·518	4	·568	8	·929
Per centage of sick to strength		85	·356	123	·116	69	·904	91	·735	30	·838	41	·668	49	·324	62	·837	100	·000	67	·012	69	·648
Per centage of death to sick treated		[illegible]	·354	0	·973	12	·521	28	·128	27	·777	14	[illegible]	6	[illegible]	8	[illegible]	4	[illegible]	6	[illegible]	12	[illegible]

Thus it will be seen that nearly one half of all the mortality amongst both classes of prisoners occurred in 1833, the year of famine, which was severely felt over the whole of this Collectorate. Almost all the prisoners admitted into the jail in that year, were extremely enfeebled and emaciated from *starvation*, and the mortality was confined almost exclusively to them. The following extract from the medical officers report gives a melancholy account of their condition.

" One hundred and two cases of fever were admitted, 29 of which were of the remittent and 73 of the intermittent types : sixteen of the former and eighteen of the latter terminated fatally. Those patients who died of the remittent form were all either old and attenuated or afflicted with cough ; none of them survived a week, few lived even to the third day. Of those who died of the intermittent type, eight were between 50 and 60 years of age, two had but recently recovered from cholera, one had dropsy, and seven were harassed with cough ; all of them sunk finally under diarrhœa."

" Sixty six cases of dysentery were admitted, and 28 proved fatal; none of these cases were attended with fever, and but few of the patients complained of griping pain or tenderness of abdomen ; the tenesmus however was always distressing, especially towards the latter stage of the disease, when the dejections which consisted of blood and mucus, became more scanty and frequent ; its course to a fatal termination was peculiarly rapid in very many of the cases."

" One hundred and fourteen cases of diarrhœa were received into the hospital, of which number fifty four proved fatal ; many died within the first week; all of these patients were exceedingly emaciated, and had been literally starving before they came into the jail. The alvine discharges were not frequent, nor did they ever assume the dysenteric character, although after death the colon was often found in an ulcerated state ; in many instances cough with pain of chest were complained of, and the lungs in such cases were found extensively diseased and tuberculated."

As it may be interesting to shew in a tabular form the relative healthiness of this and the Bellary jail the following table has been framed, in which are exhibited the admissions and deaths from the most important diseases, the total sick and mortality, the number of prisoners and the per centage of deaths to strength each year. The returns for 1831, for both jails have been lost ; but it has been ascertained, that the number of deaths at Bellary, in that year was 30 (one from cholera) from an aggregate strength of 681, and at Cuddapah they amounted to 80, (thirty eight of which were from cholera,) from an aggregate strength of 613. These figures being added to the respective sums in the last column of the table, give 6·299 as the average per centage of deaths to strength at Bellary, and 9·287 at Cuddapah.

The two stations differ widely from each other in many respects, viz. geographical position, elevation above the level of the sea, nature of the adjoining country and mode of cultivation followed in the immediate neighbourhood, as already noticed ; and the marked prevalence of fever and its sequelæ especially dropsies from visceral disease in the Cuddapah jail can be thus satisfactorily explained. The frequent severe visitations of cholera in this jail cannot fail to attract observation, whilst with the exception of the outbreak of this disease in 1837, the jail at Bellary may be said to have been free from it during the entire period, from 1829 to 1839 inclusive.

Another disease, the prevalence of which in the Bellary jail in 1833 and at Cuddapah in 1825, requires notice, viz. *beri-beri* ; its appearance in either jail is not easily accounted for. The extract however from the medical officer's report page 152, dated December 1832, bears upon the subject and partly explains it, the same remarks apply to many of the cases which occurred in 1833, and also to those in the Cuddapah jail in 1835 ; nor can it be overlooked that in this jail only two cases were entered under the head *Anasarca* in 1833, and in 1835, in that of Cuddapah, only four appear under the same head. The

debilitated state in which most of the prisoners were brought into jail in 1833, from actual starvation, predisposed to or induced œdema, which in some cases, was attended with partial paralysis, and in others, from long continued and great exposure, with rheumatic pains likewise.

Table No. 18.—Jail of Bellary and Cuddapah contrasted.

		1829.		1830.		1832.		1833.		1834.		1835.		1836.		1837		1838.		1839.		Total.	
		Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.
Jail of Bellary.	Fever	40	1	92	6	109	9	55	14	71	8	80	10	63	8	25	7	14	3	13	2	562	68
	Cholera	0	0	0	0	0	0	5	4	0	0	0	0	0	0	28	22	0	0	1	1	34	27
	Diarrhœa	20	1	10	3	26	8	17	9	54	34	9	4	7	2	10	5	7	4	5	3	165	73
	Dysentery	9	0	19	3	70	15	72	19	52	17	27	12	11	7	7	1	7	1	20	6	294	81
	Anasarca	4	2	2	1	9	8	2	2	0	0	6	2	1	0	3	1	0	0	1	0	28	16
	Rheumatism	14	0	13	1	23	3	23	5	31	9	28	2	11	0	4	0	12	1	14	0	173	21
	Atrophia	0	0	0	0	0	0	0	0	5	2	54	20	14	10	0	1	1	1	2	2	76	36
	Beriberi	0	0	0	0	1	0	89	44	9	7	0	0	0	0	0	0	0	0	0	0	99	51
	Admissions and deaths from these diseases	87	4	136	14	138	43	263	87	222	77	204	50	107	27	77	37	41	10	55	14	1430	373
	Total admissions and deaths	243	5	373	16	404	52	502	108	625	98	512	61	266	33	126	42	113	12	173	20	3337	447
	Total Strength each year	420		535		687		948		1279		914		678		554		347		539		6901	
	Per centage of deaths to strength	1	·190	2	·990	7	·569	11	·392	7	·662	6	·673	4	·867	7	·581	3	·458	3	·710	6	477
Jail of Cuddapah.	Fever	104	1	183	2	87	13	141	40	89	21	125	24	48	5	70	7	145	5	46	5	1034	123
	Cholera	1	0	0	0	52	31	210	91	9	6	0	0	0	0	3	2	4	3	18	8	297	141
	Diarrhœa	8	1	18	0	26	3	140	60	24	16	16	6	5	2	9	4	6	3	29	1	281	96
	Dysentery	12	0	17	1	33	5	115	43	4	2	4	2	0	0	1	1	2	0	11	1	199	55
	Anasarca	1	0	0	0	10	7	39	23	28	27	4	2	3	3	9	4	2	1	2	0	98	67
	Rheumatism	28	2	31	0	31	1	30	2	12	1	4	0	2	0	4	3	19	2	13	1	174	12
	Atrophia	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	Beriberi	0	0	0	0	0	0	0	0	3	3	25	10	0	0	0	0	0	0	0	0	28	13
	Admissions and deaths from these diseases	154	4	250	3	239	60	675	259	169	76	178	44	58	10	96	21	178	14	119	16	2112	507
	Total admissions and deaths	443	6	719	7	511	64	999	281	342	95	310	46	219	14	279	23	332	15	323	22	4477	574
	Total Strength each year	519		584		731		1089		1109		694		444		441		332		482		6428	
	Per centage of deaths to strength	1	·516	1	·198	8	·755	25	·894	8	·566	6	·628	3	·153	5	·180	4	·518	4	·568	8	·929

KURNOOL.

The small principality, or *jagheer* of Kurnool, or Kurnoola, as it is called by the natives, containing about 1056 square miles in extent, was subdued by, and came under the British power in the year 1839, in consequence of the treasonable designs of the late Nabob.

Situation and general description. The chief town of the district is of the same name, and is situated in 15° 48′ north latitude, and 72° east longitude, upon an angle of land formed by the junction of the rivers Henderry and Toombuddra; its elevation above the level of the sea is 900 feet. It is distant from Bellary 95 miles, from Hyderabad 128, and from Madras 300, the roads to which places are passable for wheeled carriages at all times.

In reference to the surrounding country, Kurnool is placed in a hollow, the view to the eastward being terminated by a low range of hills about five miles distant: on the west the ground gently rises for about a mile and a half, when the view abruptly terminates: on the north it also rises gently from the Toombuddra, to about the same distance; and on the south the view is bounded by a wedge shaped hill, about four miles distant. From the base of this hill the country slopes gently to the Henderry and Toombuddra; the general aspect of the country when not under cultivation, is bare and uninviting, owing to the numerous loose stones which cover the surface in every direction, and the almost total absence of trees; in the latter respect it must have greatly altered within the last 30 years, as both Hamilton and Annesley speak of the number of palmira trees to be seen.

Rivers. The Toombuddra, upon the south bank of which the fort and pettah are built, rises in the western ghauts, and shortly after receiving the Haggaree, becomes the boundary stream between the Kurnool country and the Dooab; it then

runs in a direct course east until it reaches Kurnool, where it unites with the Henderry, and winding to the northward falls into the Kistnah at Coodely-sungham, about 15 miles below the town.—The rise of its waters is very sudden, and its fall is equally rapid, but for the greatest part of the year it is a turbid stream: the bed consists of sand and pebbles, and opposite the town it is very rocky. The banks are low, and when full it is about 900 yards in breadth, having a depth of water, of from 15 to 25 feet; the stream is rapid, but is fordable from the end of December to the end of May, when it becomes clear, and is then 300 yards in breadth, and little more than knee deep; but it may be crossed at all seasons in basket boats, which are kept in readiness at the Kurnool ford.

The Henderry is a small rapid river which has its source to the south west of Kurnool, it also rises and falls very suddenly; its bed is of yellow sand and rock, and though occasionally not fordable, it is for several months of the year a mere brook.

Fifteen miles to the north of Kurnool is the ford of the Kistnah, on the high road to Secundrabad, and though not so broad as the Toombuddra, the river is deeper; its banks are higher, and when the rains fall in the western ghauts, the volume of water laden with mud, trunks of trees, &c. which rushes down, is very great; its bed is of sand and stones, it is fordable at the same season as the Toombuddra, and like it may at all times be crossed in basket boats.

After the subsiding of the Henderry and Toombuddra, in November, extensive sand banks are left, on which, besides vegetables of different kinds, melons of superior quality are grown. The melon beds are made by digging trenches about the beginning of December, and mixing regur or black soil with the sand, and the fruit becomes ripe about the middle of February. When the Toombuddra is first flooded the melon beds are all swept away, and a stratum of mud is deposited on the sand, close to the walls of the fort and pettah,

this however soon dries, and by subsequent rising of the river is swept away.

Climate. The climate of Kurnool is considered to be healthy. The mean temperature according to Captain Newbold, is about 80°. The prevailing winds are west, and north east. The following observations have been drawn up from a residence of a few months at the station. April, May and part of June, are very hot; in the two former months, the thermometer in the house, ranges from 86° to 98°, the wind being westerly. In July the temperature varies from 75° to 87°, the first half of the month is cloudy, with strong westerly breezes, the other showery, with west winds. In August, frequent showers, and occasionally heavy rain, with thunder and lightning occur, the wind being west; and the thermometer ranging from 82° to 87°. September, cloudy and hazy in the mornings, the evenings close, with occasional rain, thermometer from 76° to 88°. October weather the same as in September till the 12th, or about the middle of the month, when the wind changes to north east. November is occasionally cloudy, but for the most part clear and bracing, thermometer from 76° to 82°. December, one or two rainy days occur but for the most part it is clear and bracing, thermometer 64° to 78, wind north-east.

Soil. The prevailing soil is black cotton ground lying upon limestone, which is intersected by trap dykes, and is seldom more than eight or ten inches in depth, the surface being covered with limestone schale, but in the vicinity of the hills, it is red and sandy. The hills which are near the town are of sandstone, and sandstone conglomerate, passing into arenaceous schists.

Staple productions. The staple productions in the vicinity of the town, are sugar, cotton, jouarce, coolty, chinna, runganee, moung, nurssoor, and tobacco; and also a variety of vegetables and fruits, as carrots, turnips, onions, beet, beans, peas, brinjals, radishes, cabbages, lettuces; plantains, oranges,

lemons, pineapples, pomegranates, peaches, mangoes, and melons. Of the vegetable productions of the Materia Medica, there are found the ricinus communis, croton tiglium, cucumis colocinthidis, datura stramonium, dolichos pruriens, punica granatum, sinapis alba, piper cubeba, cassia fistula, rosa centifolia, ruta graveolens, atropa belladonna, amomum zingiber, coriandrum sativum, ficus carica and citrus medicus.

A good sort of pony is bred at Kurnool, and the game fowls are remarkable for their beauty and courage.

Several kinds of excellent fish are found in the Toombuddra, the chief of which are carp and murrell.

Manufactures. Kurnool has its manufactures of muslins, stout calicoes, cotton carpets, gold and silver ornaments, copper and brass vessels, iron utensils, clay goglets, slippers, saddle cloths, indigo and arrack. European and Chinese goods, as well as the produce of the district, are to be obtained in the shops, and many useful as well as medicinal articles in the bazaars.

Inhabitants, customs of. The Patans of Kurnool are a handsome race, polite, and courteous in manners and, address, and fond of horsemanship, cock-fighting and ram-fights. The better sort live well, animal food and wheaten cakes constituting a large portion of their food, but the poorer classes and labouring hindoos, subsist chiefly on rice, jouaree and bajree, with meat or fish occasionally. The poor all sleep upon cots, or char-paes. The inhabitants in general, notwithstanding they are said habitually to make use of opium and tobacco, attain to a good old age, though without any remarkable instances of longevity.

Fort of Kurnool. The fort built upon the base of the triangle before mentioned, is 879 yards in length from north to south, and 689 in breadth, from east to west; its walls are built of limestone and sand stone, are 17 feet high, and 9 feet thick; the northern and eastern faces are washed by the Toombuddra, and a deep and broad dry ditch runs from west to south.—

Several large circular bastions are placed at certain distances; there are three gate ways, one opening to the westward, another towards the Toombuddra on the east, and a third communicating with the pettah to the south. The fort is inhabited chiefly by the relatives of the late Nabob and their followers, by the government agents and subordinates, and by the officers of the native regiments stationed here; the houses are small having all formerly been native dwellings. The palace, cutcherry, barracks, arsenal and hospital, are also situated within the fort.

The soil in most parts is shallow; the limestone rock being found at a few inches in depth, and in some places projecting through the surface; notwithstanding this a great number of trees principally the banian, margosa and tamarind, grow in the compounds.

The fort is well drained by means of covered sluices communicating with the Toombuddra; and the inhabitants, in number 2,000, are said to be remarkably healthy.

Pettah or native town. The pettah stretches from the south gate of the fort, to the point of the triangle, where the rivers meet; its sides are nearly equal, and it is about two miles and a half in circumference, surrounded by a wall 10 feet high, and a ditch, for the most part dry, but in some places filled with stagnant water. The houses in number amounting to 3854, are meanly built, and the streets narrow and badly drained, strangers being struck with the number of burial grounds, and grave stones to be seen, and with their neglected condition. The population amounts to 20,019—11,215 of whom are mahomedans. There is a good bazaar, and the police is under the jurisdiction of a british agent and magistrate.

The town is plentifully supplied with excellent drinking water from the rivers, but that procured from wells is brackish.

Regimental lines. The regimental lines are situated on a plain, about 300 yards from the west gate of the fort, with which there is a communication by means of a cause-way. The parade ground

is contiguous to the lines, and the village of Nova pettah lies between them and the Toombuddra, their length is 371 yards, from east to west, and 170 in breadth; the streets are wide and the houses good, but the drainage is bad, for want of a sufficient fall. The population is about 4,000, and that of Nova-pettah about 2,000.

The Russalah lines, are situated a little to the north of the Henderry, the houses are good and neat, the streets wide, and the drainage towards the river perfect; the number of troopers is 230.

Barracks. The barracks for the native infantry are situated in the fort, near the western gate, and close to the drill ground; the building is 170 feet long, with a verandah at each side, and is capable of containing 1026 stand of arms. In the fort there is also a barrack for 30 European artillery, with sergeants quarters, a cook room, congee house, privy, and a shed for guns.

Hospital. The hospital is near the east or water gate, and is a building of 52½ feet in length, by 29½ broad, and 10½ high; it is well ventilated and capable of containing 30 cots, as many however as 50 patients have been accommodated in it at one time; it lies north and south, and has a small yard in front surrounded by a wall four feet high, within which is a cook room and privy.

The surgery is a room of 19, by 17½ feet, communicating with the hospital. The situation of the hospital is rather confined, but a site has been marked out near the drill ground, where a new hospital is about to be erected.

Prevailing diseases. The prevailing diseases are cholera, small pox, fever and syphilis; a vaccine establishment has been kept up within the last four or five years. Several *hakeems* reside at Kurnool, whose knowledge is obtained from the writings of the old Arabian physicians, they are unacquainted with the circulation of the blood; and of anatomy they are very ignorant, but possess a copious materia medica.

Cholera was very fatal in 1843, in the pettah, having been apparently introduced by corps passing through, but for 10 or 12 years previous thereto, neither it, nor any other epidemic prevailed to any extent, though a few isolated cases, occurred each year.

One regiment of native infantry has been stationed here since 1840, and table No. 19, shews the nature of the diseases and amount of mortality which have occurred during a period of three years, from an aggregate strength of 3810 men.

No. 19.—*Table exhibiting the number of Admissions and Deaths amongst the native Troops stationed at Kurnool, during a period of three years, from* 1840 *to* 1842 *inclusive.*

Aggregate strength. 3810.

CLASSES.	DISEASES.	Admitted.	Died.	Admissions from each class.	Deaths from each class.	Per centage of sick to strength.	Per centage of deaths to sick.
Fevers......	Febris ephemera	250	0	685	2	17 ·979	0 ·291
	,, intermit quot.	403	2				
	,, remittens.....	5	0				
	,, com: continua	27	0				
	Cholera.........	40	19	40	19	1 ·049	47 ·500
Diseases of the abdominal viscera......	Diarrhœa.......	78	0	202	5	5 ·301	2 ·475
	Dysenteria acuta et chronica.	53	5				
	Colica..........	5	0				
	Obstipatio......	6	0				
	Hœmorrhois....	9	0				
	Icterus.,........	1	0				
	Gastritis........	5	0				
	Hepatitis.......	2	0				
	Dyspepsia......	43	0				
Diseases of the Lungs	Catarrhus......	2	1	18	4	0 ·472	22 ·222
	Asthma........	1	0				
	Phthisis pulmonalis.........	3	1				
	Pneumonia.....	10	1				
	Palpitatio	2	1				
Diseases of the Brain.	Apoplexia	1	0	11	0	0 ·288	0 ·000
	Paralysis.......	7	0				
	Mania..........	3	0				
Eruptive fevers......	Varicella........	44	0	57	0	1 ·496	0 ·000
	Rubeola........	13	0				
Dropsies....	Anasarca......	6	3	6	3	0 ·157	50 ·000
	Ascites.........	0	0				
Rheumatic affections.	Rheumatismus acutus et chronicus.........	236	2	236	2	6 ·194	0 ·847
Venereal affections...	Syphilis primitiva..........	111	0	168	0	4 ·409	0 ·000
	,, consecutiva...	6	0				
	Gonorrhœa.....	29	0				
	Hernia humoralis..........	21	0				
	Strictura urethræ..........	1	0				
Specific diseases.....	Lepra..........	2	0	50	1	1 ·312	2 ·000
	Beriberi........	2	1				
	Dracunculus....	21	0				
	Atrophia........	17	0				
	Scrophula......	8	0				
	Morbi oculorum	51	0	51	0	1 ·338	0 ·000
	,, cutis....	71	0	71	0	1 ·863	0 ·000
	Other diseases..	445	1	*445	1	11 ·679	0 ·224
	Total....	2040	37	2040	37	53 ·543	1 ·813

* Of this number were Phlogosis 122, Ulcus 66. Per centage of deaths to strength 0·970.

GHOOTY.

General description of the Town and Hill fort of Ghooty.

Ghooty is distant, east from Bellary 54 miles by the road, its latitude is 15° 8″ north, and it is in 77° 42 east longitude ; it consists of a cluster of fortified hills nearly surrounding a lower fort and native town ; outside the fortifications are the remains of a military cantonment, and a considerable pettah.

Five principal roads lead to this station, viz. from Bellary on the west, Adoni on the north west, Kurnool on the north, Cuddapah on the south east, and Anantapore on the south. The country around is a plain nearly on the same level with Bellary, being 1182 feet above the sea, with many rocky hills rising abruptly from it ; the soil is dry and gravelly near the hills, but in other situations it is chiefly black cotton ground.

The highest of the fortified hills, which is about double the elevation of any of the others, is 989 feet above the plain ; it is a rock of sienite, precipitous in its upper third, and strongly fortified. On the summit of this hill there are several buildings, now occupied by about 30 state prisoners confined here ; there are also several tanks and reservoirs, the water of which is very good, and used by the prisoners.

About half way down the principal hill, on its north side, is a fortified shoulder of considerable extent, called Maha Ghooty, with barracks at one time occupied by a wing of a European regiment, but which are now falling to decay.

The other lower hills forming the cluster, are defended by round towers at certain intervals, connected by stone walls but now in several places broken down.

The town is in the centre of the cluster, and being protected by the hills, little besides a strong gate has been thought

necessary for its security, the wall on each side, connecting the hills on its right and left.

The lower fort, as well as the pettah and cantonment lie upon the west side, and upon the east is the small village of Cottepettah, a tank and a few rice fields; to the south and north there is some dry cultivation intermixed with barren rocky tracts.

The old town of Ghooty consists principally of one main street leading from the lower fort gate, to the cause-way by which the ascent is made to Maha Ghooty, and the hill fort; it is now but thinly inhabited, and many of the houses as well as public buildings, are in ruins, there is a small hospital and quarters for a serjeant, which are in good repair.

The cantonment, at one time of considerable extent, is, with the exception of two or three houses, in ruins. There is a good parade ground between the officers houses and the hills, at the north end of which is a small place of arms and some store rooms, the sepoys' huts being in the immediate vicinity, upon good dry ground.

The pettah is of moderate size, having one principal street leading from the lower fort gate eastward on the Bellary road, for about half a mile. The houses are tolerably good, and it is well drained.

On the west side of the cantonment is a large tank with some wet cultivation, the bed of this tank is dry during the hot weather, and emits much effluvia. There is a smaller tank, though of considerable size, north of the pettah. Independent of these two principal reservoirs, there are numerous smaller tanks and wells dispersed around, the water of many of them being very good, but that of others brackish.

There is no stream of any importance near Ghooty, and but little wood to be seen; two thriving plantations of fruit and other trees, have however lately been made by the pub

lic authorities. On the north side of the pettah, and along the roads are many fine old bannian, tamarind, and neem trees.

The surrounding cultivation is confined chiefly to dry grain.

Ghooty contains 4,386 inhabitants, of whom 413 are brahmins, 237 koomtees, 1077 mussalmans, 2,411 soodras, 218 pariahs, and 40 christians. Their occupations are chiefly farming and weaving, but many are employed as artificers and merchants. All classes appear to attain a fair average length of life.

There are six *telloogoo,* one *tamil* and three *persian* schools, which are well attended.

A charitable establishment supported by the state, named "Munro's Choultry" in memory of the late Sir Thomas Munro, exists here.

The principal diseases amongst the inhabitants, are continued fever of a slight description, and cholera which at times appears in a very malignant form; guinea worm is also common.

Ghooty, formerly the head quarters of a brigade, including one European regiment, is now garrisoned by two companies of native infantry.

The sepoys enjoy excellent health; a few cases of fever, rheumatism, syphilis and other usual and simple affections, in general constitute the sick list. The place has been several times attacked by epidemic cholera of late, after the encamping of infected bodies of troops in its vicinity, but in none of these visitations has it prevailed to any great extent. The returns of sick not having been forwarded to the medical board office separately, the usual table of diseases cannot be given here.

REMARKS ON THE GENERAL TABLES.

Remarks on the General tables of disease.

The general table No. 1, for European troops includes the sick of H. M.'s regiments, and of one company of artillery at Bellary, the only place in the division occupied by European troops. It exhibits the admissions into hospital, and the mortality from the most important diseases, each half year, for a period of ten years from 1829 to 1838 inclusive, as in the preceding reports. The annual per centage of sick to strength, of deaths to sick, and of deaths to strength, are also given; the average of these, as exhibited in the abstract table No. 2, being 199·467, 1·584, and 3·159 respectively.

In the years 1834 and 1838, the admissions into hospital were considerably above the average, occasioned in the former period principally by fever, and in 1838, by ophthalmic disease also. The mortality exceeded the average in 1838 and 1837; in both years almost exclusively the result of epidemic cholera in H. M.'s 55th and 41st regiments, when in barracks at Bellary.

During the ten years, the total admissions have been 17,992 and the total deaths in hospital 285, from an aggregate strength of 9,030 men.

The most prevalent diseases have been *fevers, syphilis, ophthalmia, rheumatism, dysentery, hepatitis, diarrhœa and thoracic diseases;* and the greatest mortality has resulted from *cholera, dgsentery, hepatitis, fever and thoracic diseases;* the per centage from each of which is noted in the table No. 2.

The admissions are pretty equal during each of the half yearly periods (table No. 2;) but the mortality is slightly in-

creased during the second half yearly period from dysentery hepatitis and fever.

Tables No 3 and 4, shew the amount of the same diseases, and mortality which have occurred amongst the native troops at the head quarters of the division and at Cuddapah and Ghooty, during the same period of years. The total admissions have been 17,804, and 581 deaths have occurred from an aggregate strength of 35,999 men ; the average per centage of sick to strength being 49·456, of deaths to sick treated 3.263 and of deaths to strength 1·613.

The admissions were considerably above the average in 1834, 35, 36, and 1838, principally from fever, and in the last mentioned year, partly from cholera also ; the mortality was greatly above the average in 1833 and 1838, the result in both years of epidemic cholera, and which occurred almost exclusively in corps while marching in the division ; e. g. the 17th regiment N. I. in January 1833, *en route* to Cuddapah, lost 63 men, out of 144 attacked ; the 16th regiment N. I. in October, on its march from Palavaram to Cuddapah, buried 55 men, 125 having been attacked ; and the 52d regiment in the same month of that year while marching through the western part of the division, lost 22 men out of 80, who were attacked with this disease. Again, in January 1829, the 28th regiment N. I. while marching through this division, *en route* to Jaulnah, suffered rather severely from cholera, and buried 19 men, out of 42 attacked ; in 1831, the 45th regiment was attacked with the disease while marching to Palavaram, and buried 8 out of 41, and lastly in 1832, out of the number of admissions and deaths under this head in the general table No. 3, no less than 36 with 16 deaths occurred in the 14th regiment, in the month of April, while marching in the division.

The most prevalent diseases, as shown in table No. 4, have been *fevers, rheumatism, syphilis, cholera, dysentery, diarrhœa*

CEDED DISTRICTS.

Table No. 1.—Return of sick of the European Troops, exhibiting the half yearly Admissions and Deaths from the principal diseases, and those which have been Epidemic or Endemic during the period of ten years, from 1829 to 1838.

Years.			Diseases.																												
			Admissions and Deaths.	Apoplexy.	Atrophy.	Beriberi.	Cholera.	Cutaneous diseases.	Delirium Tremens.	Diarrhœa.	Dysentery.	Elephantiasis.	Fever ephemeral.	" continued.	" intermittent.	" remittent.	Guinea worm.	Hepatic diseases.	Insanity.	Leprosy.	Ophthalmy.	Rheumatism.	Small pox.	Syphilis &c.	Thoracic diseases.	Ulcer phagedenic.	Wounds & injuries.	Other complaints.	Strength each year.	Annual per centage of sick to strength.	Annual per centage of deaths to sick treated.	Annual per centage of deaths to strength.
1829	Admitted.	1st half.	935	0	0	0	12	0	0	20	75	0	0	57	44	20	0	58	3	0	171	88	0	116	3	0	55	213	923	204 ·767	0 ·687	1 ·408
		2d "	955	1	0	0	8	0	0	17	55	0	0	130	9	12	0	44	2	0	245	52	0	114	4	0	53	209				
	Died.	1st half.	5	0	0	0	0	0	0	0	2	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1				
		2d "	8	1	0	0	0	0	0	0	2	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	1	0				
1830	Admitted.	1st half.	709	0	0	0	22	0	0	22	31	0	0	60	16	3	0	34	0	0	158	64	0	108	4	0	27	159	919	161 ·262	1 ·282	2 ·067
		2d "	774	0	0	0	10	0	0	21	61	0	0	49	32	23	0	28	1	0	190	50	0	116	10	0	45	138				
	Died.	1st half.	9	0	0	0	0	0	0	0	2	0	0	0	0	0	0	1	1	0	0	1	0	0	1	0	0	3				
		2d "	10	0	0	0	0	0	0	0	5	0	0	0	0	2	0	1	0	0	0	0	0	0	1	0	1	0				
1831	Admitted.	1st half.	798	0	0	0	19	0	0	14	70	0	0	107	18	11	0	26	2	0	71	43	0	159	11	0	48	199	876	185 ·045	1 ·295	2 ·397
		2d "	823	0	0	0	6	0	0	36	70	0	6	39	3	4	0	31	2	0	147	44	0	186	12	0	40	197				
	Died.	1st half.	12	0	0	0	4	0	0	0	1	0	0	0	0	0	0	2	0	0	0	0	0	1	4	0	0	0				
		2d "	9	0	0	0	1	0	0	1	1	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	2				
1832	Admitted.	1st half.	706	0	0	0	1	0	0	23	13	0	5	144	11	0	0	12	0	0	38	36	0	183	13	0	15	212	853	163 ·657	1 ·361	2 ·227
		2d "	690	0	0	0	2	0	0	28	35	0	17	57	1	1	0	34	1	0	110	35	0	196	4	0	39	130				
	Died.	1st half.	12	0	0	0	0	0	0	0	1	0	0	0	0	0	0	5	0	0	0	0	0	0	2	0	0	4				
		2d "	7	0	0	0	1	0	0	0	3	0	0	[illegible]	0	0	0	2	0	0	0	0	0	0	1	0	0	0				
1833	Admitted.	1st half.	887	1	0	0	77	0	0	63	28	0	13	140	0	0	0	32	5	0	121	39	0	159	23	0	25	161	867	205 ·767	3 ·251	6 ·689
		2d "	897	2	0	0	7	0	0	46	48	0	22	96	1	0	0	36	0	0	155	58	0	220	18	0	30	158				
	Died.	1st half.	43	1	0	0	32	0	0	1	2	0	0	1	0	0	0	2	0	0	0	0	0	0	3	0	0	1				
		2d "	15	2	0	0	5	0	0	1	3	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	0	1				
1834	Admitted.	1st half.	797	0	0	0	1	1	27	58	53	0	19	116	5	14	0	48	0	0	*83	31	0	139	27	0	62	113	762	244 ·881	1 ·554	3 ·805
		2d "	1,069	1	0	0	1	0	46	61	69	0	24	122	127	46	0	36	0	0	110	55	0	148	32	0	72	119				
	Died.	1st half.	11	0	0	0	0	0	1	0	0	0	0	5	0	0	0	0	0	0	0	0	0	1	1	0	0	3				
		2d "	18	1	0	0	0	0	0	1	4	0	0	1	0	3	0	4	0	0	0	0	0	0	1	0	0	3				
1835	Admitted.	1st half.	982	0	0	0	0	2	23	30	45	0	23	62	205	2	0	44	0	0	78	80	0	187	70	0	35	96	930	206 ·881	1 ·039	2 ·150
		2d "	942	0	0	0	0	2	47	35	36	0	13	92	161	0	0	27	0	0	80	92	0	131	40	0	49	137				
	Died.	1st half.	6	0	0	0	0	0	0	0	1	0	0	0	2	1	0	1	0	0	0	0	0	0	1	0	0	0				
		2d "	14	0	0	0	0	0	0	1	4	0	0	2	1	0	0	1	0	0	0	0	0	1	2	0	2	0				
1836	Admitted.	1st half.	787	0	0	0	0	4	31	21	20	0	6	93	78	1	0	34	1	0	44	86	0	153	42	0	50	123	995	177 ·889	2 ·030	3 ·718
		2d "	983	0	0	0	7	5	16	42	114	0	18	80	96	5	1	56	3	0	64	60	0	218	33	0	45	120				
	Died.	1st half.	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	2				
		2d "	33	0	0	0	2	0	0	0	12	0	0	3	1	0	0	6	1	0	0	1	0	1	2	0	0	4				
1837	Admitted.	1st half.	735	1	0	0	1	2	6	18	27	0	5	93	15	2	0	56	0	0	37	65	1	231	31	0	39	105	1038	196 ·820	2 ·055	4 ·015
		2d "	1,308	0	0	0	38	4	36	37	106	0	2	340	19	1	0	85	0	0	76	90	0	97	45	0	76	256				
	Died.	1st half.	13	1	0	0	0	0	0	2	4	0	0	1	0	0	0	3	0	0	0	0	0	0	1	0	0	1				
		2d "	29	0	0	0	12	0	2	1	5	0	0	2	1	0	0	2	0	0	0	0	0	0	4	0	0	0				
1838	Admitted.	1st half.	1,478	0	1	0	5	14	27	62	109	0	10	391	14	0	1	72	0	0	39	121	0	95	83	0	106	317	857	258 ·576	1 ·218	3 ·150
		2d "	738	0	0	0	9	5	20	19	47	0	9	78	30	1	3	51	0	0	24	104	0	70	17	0	31	190				
	Died.	1st half.	15	0	0	0	2	0	0	0	1	0	0	2	0	0	0	3	0	0	0	0	0	0	3	0	0	4				
		2d "	12	0	0	0	3	0	0	1	3	0	0	2	0	0	0	1	0	0	0	0	0	0	1	0	0	1				

CEDED DISTRICTS.

Table No. 2.—Europeans—Abstract of the preceding Returns, shewing the Total number of Admissions, and Deaths, &c. from 1829 *to* 1838.

	Admissions and deaths.	Apoplexy.	Atrophy.	Beriberi.	Cholera.	Cutaneous diseases.	Delirium Tremens.	Diarrhœa.	Dysentery.	Elephantiasis.	Fever ephemeral.	,, continued.	,, intermittent.	,, remittent.	Guinea Worm.	Hepatic diseases.	Insanity.	Leprosy.	Ophthalmy.	Rheumatism.	Small pox.	Syphilis &c.	Thoracic diseases.	Ulcer phagedenic.	Wounds & injuries.	Other Complaints.
Aggregate strength. 9,020.																										
1829 to 1838. Admitted. 1st half.	8,813	2	1	0	138	23	114	331	471	0	89	1263	406	53	1	416	11	0	840	656	1	1530	307	0	462	1698
1829 to 1838. Admitted. 2d ,,	9,179	4	0	0	88	16	165	372	641	0	111	1083	479	93	4	428	9	0	1201	640	0	1496	215	0	480	1654
Total..	17,992	6	1	0	226	39	279	703	1,112	0	200	2346	885	146	5	814	20	0	2041	1296	1	3026	522	0	942	3352
1829 to 1838. Died. 1st half.	130	2	0	0	38	0	1	3	14	0	0	10	2	1	0	19	1	0	0	1	0	3	16	0	0	19
1829 to 1838. Died. 2d ,,	155	4	0	0	24	0	2	6	42	0	0	10	3	5	0	26	1	0	0	1	0	2	14	0	4	11
Total..	285	6	0	0	62	0	3	9	56	0	0	20	5	6	0	45	2	0	0	2	0	5	30	0	4	30
Average per centage of sick to strength.	199·467	0·066	0·011	0	2·505	0·432	3·093	7·793	12·328	0	2·217	26·002	9·811	1·618	0·055	9·356	0·221	0	22·627	14·368	0·011	33·547	5·787	0	10·443	37·161
Do. of deaths to sick treated.	1·584	100·0	0	0	27·433	0	1·075	1·280	5·035	0	0	0·852	0·564	4·109	0	5·331	10·0	0	0	0·154	0	0·165	5·747	0	0·421	0·894
Do. of deaths to strength.	3·159	0·060	0	0	0·687	0	0·033	0·099	0·620	0	0	0·221	0·055	0·066	0	0·498	0·022	0	0	0 022	0	0·055	0·332	0	0·044	0·332

CEDED DISTRICTS.

Table No. 3.—Return of sick of the Native Troops, exhibiting the half yearly Admissions and Deaths from the principal diseases, and those which have been Epidemic or Endemic during the period of ten years, from 1829 *to* 1838.

Years.			Diseases.																										Strength each year.	Annual per centage of sick to strength.	Annual per centage of deaths to sick treated.	Annual per centage of deaths to strength.
			Admissions and Deaths.	Apoplexy.	Atrophy.	Beriberi.	Cholera.	Cutaneous diseases.	Delirium Tremens.	Diarrhoea.	Dysentery.	Elephantiasis.	Fever ephemeral.	,, continued.	,, intermittent.	,, remittent.	Guinea worm.	Hepatic diseases.	Insanity.	Leprosy.	Ophthalmy.	Rheumatism.	Small pox.	Syphilis &c.	Thoracic diseases.	Ulcer phagedenic.	Wounds & injuries.	Other complaints.				
1829	Admitted.	1st half.	827	0	1	0	42	0	0	22	13	0	0	1	196	7	0	0	2	0	8	114	1	96	9	0	78	237	4774	33 ·431	3 ·320	1 ·110
		2d ,,	769	1	0	1	1	0	0	9	4	0	0	0	171	1	0	0	7	0	27	147	1	76	4	0	61	258				
	Died.	1st half.	37	0	1	0	19	0	0	0	0	0	0	0	3	2	0	0	0	0	0	2	1	1	3	0	0	5				
		2d ,,	16	1	0	1	1	0	0	1	0	0	0	0	4	1	0	0	0	0	0	1	1	0	1	0	0	4				
1830	Admitted.	1st half.	734	0	0	1	1	0	0	8	5	0	0	3	68	32	0	1	1	0	29	113	0	60	11	2	96	303	4998	28 ·631	2 ·585	0 ·740
		2d ,,	697	0	0	0	1	0	0	10	3	0	8	1	96	32	0	2	2	0	52	102	0	53	13	1	83	238				
	Died.	1st half.	21	0	0	1	1	0	0	0	0	0	0	1	2	2	0	0	2	0	0	1	0	1	2	2	1	5				
		2d ,,	16	0	0	0	0	0	0	2	0	0	0	0	5	0	0	0	1	0	0	0	0	0	3	1	0	4				
1831	Admitted.	1st half.	838	0	1	0	51	0	0	12	3	0	79	2	117	28	0	3	2	0	4	92	0	65	9	0	77	293	3879	34 ·905	4 ·062	1 ·417
		2d ,,	516	1	0	·0	27	0	0	22	8	0	45	4	60	2	0	0	3	0	12	62	0	28	4	0	67	171				
	Died.	1st half.	28	0	1	0	17	0	0	0	2	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	5				
		2d ,,	27	1	0	0	15	0	0	1	1	0	1	0	0	0	0	0	1	0	0	0	0	0	2	0	0	5				
1832	Admitted.	1st half.	669	1	0	1	37	0	0	12	22	0	66	12	49	4	0	1	3	0	3	79	0	31	5	0	96	247	3222	49 ·503	2 ·821	1 ·396
		2d ,,	926	1	0	0	6	0	0	23	15	0	235	5	120	48	0	1	2	0	28	72	0	37	4	1	68	260				
	Died.	1st half.	34	1	0	1	16	0	0	0	0	0	0	0	2	1	0	0	1	0	0	6	0	0	2	0	0	4				
		2d ,,	11	0	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	4				
1833	Admitted.	1st half.	978	2	0	2	177	0	0	38	24	0	233	4	33	2	0	0	4	0	8	56	0	39	16	0	73	267	3532	49 ·405	7 ·793	3 ·850
		2d ,,	767	1	0	5	41	0	0	44	12	0	239	3	106	18	0	2	3	0	12	56	0	45	13	0	51	116				
	Died.	1st half.	104	2	0	1	83	0	0	0	4	0	1	1	0	1	0	0	0	0	0	0	0	0	4	0	0	7				
		2d ,,	32	1	0	1	20	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	4	0	0	4				
1834	Admitted.	1st half.	779	0	1	0	0	7	0	9	9	0	285	6	166	23	5	0	2	0	4	54	6	45	8	0	47	102	3009	73 ·811	1 ·266	0 ·930
		2d ,,	1,442	0	0	1	3	7	0	11	21	0	630	6	425	67	10	1	7	0	9	54	0	26	13	0	53	95				
	Died.	1st half.	16	0	0	0	0	0	0	0	0	0	2	1	1	5	0	0	0	0	0	0	0	0	4	0	0	3				
		2d ,,	12	0	0	1	1	0	0	1	0	0	0	2	1	2	0	0	0	0	0	0	0	0	4	0	0	0				
1835	Admitted.	1st half.	1,102	0	0	1	2	16	1	28	13	0	239	3	367	32	13	1	6	0	27	79	19	34	5	0	44	172	3361	75 ·929	0 ·862	0 ·654
		2d ,,	1,450	0	0	0	0	55	0	18	8	0	394	4	377	22	3	0	2	2	29	129	2	40	15	0	127	223				
	Died.	1st half.	12	0	0	0	0	0	0	1	0	0	1	1	3	1	0	0	1	0	0	0	0	0	3	0	0	1				
		2d ,,	10	0	0	0	0	0	0	0	1	0	0	1	2	1	0	1	0	0	0	2	0	0	1	0	0	1				
1836	Admitted.	1st half.	893	0	1	0	0	65	1	7	16	0	135	1	222	10	10	1	1	0	14	89	5	46	11	0	84	174	2739	62 ·322	1 ·230	0 ·766
		2d ,,	814	0	1	0	0	48	1	7	11	0	97	1	180	6	4	1	1	0	70	78	0	41	9	1	68	189				
	Died.	1st half.	14	0	0	0	0	0	0	2	·0	0	1	0	6	2	0	0	0	0	0	0	0	0	1	0	0	2				
		2d ,,	7	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	1	2	1	0	1				
1837	Admitted.	1st half.	608	0	1	0	1	37	0	4	3	0	73	0	93	43	7	0	1	0	13	61	23	17	8	0	80	143	3150	42 ·920	2 ·884	1 ·238
		2d ,,	744	0	1	0	19	32	0	10	11	0	122	0	132	15	4	0	1	0	35	77	0	39	5	0	90	151				
	Died.	1st half.	24	0	0	0	0	0	0	0	0	0	0	0	3	12	0	0	0	0	0	2	0	0	2	0	0	5				
		2d ,,	15	0	0	0	6	0	0	0	0	0	0	0	2	1	0	0	1	0	0	0	0	0	3	0	0	2				
1838	Admitted.	1st half.	1,204	0	3	3	11	35	1	29	30	0	135	10	256	16	30	3	4	0	12	140	23	52	19	0	136	256	3335	67 ·496	6 ·441	4 ·347
		2d ,,	1,047	1	2	4	235	42	0	20	22	0	116	2	170	8	6	2	1	0	6	124	1	39	8	0	73	165				
	Died.	1st half.	36	0	0	1	8	0	0	0	2	0	0	2	5	5	0	1	0	0	0	4	0	0	4	0	0	4				
		2d ,,	109	1	1	0	93	0	0	0	0	0	0	2	3	0	0	1	0	0	0	1	0	0	4	0	1	2				

CEDED DISTRICTS.

Table No. 4.—Natives—Abstract of the preceding Returns, shewing the Total number of Admissions, and Deaths, &c. from 1829 *to* 1838.

	Diseases.																									
	Admissions and deaths.	Apoplexy.	Atrophy.	Beriberi.	Cholera.	Cutaneous diseases.	Delirium Tremens.	Diarrhœa.	Dysentery.	Elephantiasis.	Fever ephemeral.	,, continued.	,, intermittent.	,, remittent.	Guinea Worm.	Hepatic diseases.	Insanity.	Leprosy.	Ophthalmy.	Rheumatism.	Small pox.	Syphilis &c.	Thoracic diseases.	Ulcer phagedenic.	Wounds & injuries.	Other Complaints.
Aggregate strength. 35,999.																										
1829 to 1838. Admitted. 1st half.	8,632	3	8	8	322	160	3	169	138	0	1245	42	1567	197	65	10	26	0	122	877	77	485	101	2	811	2194
2d ,,	9,172	5	4	11	333	184	1	174	118	0	1886	26	1837	219	27	9	29	2	280	901	4	424	88	3	741	1866
Total..	17,804	8	12	19	655	344	4	343	256	0	3131	68	3404	416	92	19	55	2	402	1778	81	909	189	5	1552	4060
Died. 1st half.	326	3	2	4	144	0	0	3	8	0	5	6	26	31	0	1	4	0	0	16	1	2	26	2	1	41
2d ,,	255	4	1	3	139	0	0	6	4	0	1	5	18	5	0	2	3	0	0	6	1	1	24	3	2	27
Total..	581	7	3	7	283	0	0	9	12	0	6	11	44	36	0	3	7	0	0	22	2	3	50	5	3	68
Average per centage of sick to strength.	49·456	0·022	0·033	0·052	1·819	0·955	0·011	0·952	0·711	0	8·697	0·188	9·455	1·155	0·255	0·052	0·152	0·005	1·116	4·939	0·225	2·525	0·525	0·013	4·311	11·278
Do. of deaths to sick treated.	3·263	87·500	25·000	36·842	43·206	0	0	2·623	4·687	0	0·191	16·176	1·292	8·653	0	15·789	12·727	0	0	1·237	2·469	0·330	26·455	100·00	0·193	1·674
Do. of deaths to strength.	1·613	0·019	0·008	0·019	0·786	0	0	0·024	0·033	0	0·016	0·030	0·122	0·100	0	0·008	0·019	0	0	0 061	0·005	0·008	0·138	0·013	0·008	0·188

CEDED DISTRICTS.

No. 5.—*Table exhibiting the number of Admissions, and Deaths from each class of disease for 5 years.*

EUROPEAN TROOPS.

CLASSES.	DISEASES.	From 1834 to 1838. Aggregate strength 4582. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Admissions and deaths from each class of disease. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Total admissions from each class.	Total deaths from each class.	Average annual per centage of sick to streng.h.	Average annual per centage of deaths to sick.
Fevers......	Febris ephemera	71	0	66	0	1162	11	1264	16	2426	27	52 ·946	1 ·112
	,, intermit quot.	307	2	397	2								
	,, tertiana......	10	0	36	1								
	,, remittens.....	19	1	53	3								
	,, continua......	755	8	712	10								
	Cholera........	7	2	55	17	7	2	55	17	62	19	1 ·353	30 ·615
Diseases of the abdominal viscera.......	Dysenteria acuta	245	7	359	27	254	7	372	29	626	36	13 ·662	5 ·750
	,, chronica......	9	0	13	2								
	Diarrhœa.......	189	2	224	4	289	3	389	4	678	7	14 ·797	1 ·052
	Colica..........	11	0	21	0								
	bstipatio.......	32	0	52	0								
	Hœmorrhois....	27	0	55	0								
	Enteritis........	4	0	1	0								
	Peritouitis......	0	0	0	0								
	Gastritis........	7	1	3	0								
	Dyspepsia.......	19	0	33	0								
	Hepatitis acuta.	233	7	228	12	254	8	255	14	509	22	11 ·108	4 ·322
	,, chronica......	21	1	27	2								
Diseases of the Lungs and Heart	Catarrhus......	174	1	73	1	253	6	167	10	420	16	9 ·166	3 ·809
	Asthma........	1	0	2	0								
	Phthisis pulmonalis.........	9	1	8	4								
	Hœmoptysis.....	5	0	3	1								
	Pleuritis........	0	0	6	0								
	Pneumonia......	64	4	71	2								
	Carditis........	0	0	5	2								
	Palpitatio......	0	0	1	0								
	Dyspnœa.......	0	0	4	0								
Diseases of the Brain.	Apoplexia......	1	1	1	1	165	6	228	7	393	13	8 ·577	3 ·307
	Epilepsia.......	3	0	5	2								
	Paralysis.......	7	3	9	2								
	Cephalalgia	40	1	41	0								
	Phreuitis.......	0	0	1	1								
	Ictus solis......	0	0	0	0								
	Amentia.......	0	0	0	0								
	Mania..........	0	0	3	1								
	Hydrophobia...	0	0	0	0								
	Delirium Tremens.........	69	1	88	1								
	Ebrietas.........	45	0	77	1								
Diseases of the Eye..	Morbi oculorum...........	281	0	354	0	281	0	354	0	635	0	13 ·858	0
Do. ,, Skin	,, cutis.......	23	0	16	0	23	0	16	0	39	0	0 ·851	0
Eruptive Fevers......	Variola.........	0	0	0	0	4	0	0	0	4	0	0 ·087	0
	Varicella.......	1	0	0	0								
	Rubeola........	0	0	0	0								
	Scarlatina......	0	0	0	0								
	Erysipelas.......	3	0	0	0								
Dropsics....	Anasarca.......	0	0	1	0	3	1	7	0	10	1	0 ·219	10 0
	Ascites.........	3	1	6	0								
	Hydrothorax....	0	0	0	0								
Rheumatic affections.	Rheumatismus acutus.......	295	0	265	1	386	0	402	1	788	1	17 ·197	0 ·126
	,, chronicus....	91	0	136	0								
	Neuralgia......	0	0	0	0								
	Odontalgia......	0	0	1	0								
Venereal affections..	Syphilis primitiva..........	386	0	282	1	802	1	661	1	1463	3	31 ·930	0 ·205
	,, consecutiva...	28	1	23	1								
	Gonorrhœa.....	345	0	298	0								
	Hernia humoralis..........	37	0	51	0								
	Strictura urethrœ.........	6	0	7	0								
Specific diseases.....	Atrophia........	1	0	0	0	11	0	7	0	18	0	0 ·392	0
	Beriberi.........	0	0	0	0								
	Elephantiasis...	0	0	0	0								
	Lepra..	0	0	0	0								
	Dracunculus....	4	0	4	0								
	Ulcus phagedenicum........	0	0	0	0								
	Scrophula......	6	0	3	0								
	Scorbutus......	0	0	0	0								
Punishment.	Punitus........	25	0	23	0	25	0	23	0	48	0	1 ·047	0
Wounds and injuries...	Fractura........	18	0	18	0	292	0	273	2	565	2	12 ·330	0 ·353
	Luxatio.........	8	0	1	0								
	Subluxatio......	31	0	28	1								
	Vulnus sclopitorum........	7	0	20	0								
	,, incisum......	39	0	34	1								
	Contusio	186	0	170	0								
	Ambustio	3	0	2	0								
Other diseases, including Phlogosis, Ulcus, &c..,............		568	4	567	4	568	4	567	4	*1135	+8	24 ·769	0 ·704
	Total..	4779	49	5040	106	4779	49	5040	106	9819	155	214 ·295	1 ·578

Average per centage of deaths to strength, during these five years, has been 3·362.

* Of this number were

Phlogosis............	179	0
Do. do. Ulcus........	389	0
Do. do. Bubo simplex	246	1
Total....	814	1

+ The deaths under this head, include besides the one accounted for in the preceding note, three from cynanche, two from splenitis and two not particularised.

CEDED DISTRICTS.

No. 6.—*Table exhibiting the Number of Admissions and Deaths, from each Class of Disease, for 5 years.*

NATIVE TROOPS.

CLASSES.	DISEASES.	From 1834 to 1838. Aggregate strength 15594. 1st Half. Ad.	Dd.	2d. Half. Ad.	Dd.	Admissions and deaths from each class of diseases. 1st Half. Ad.	Dd.	2d. Half. Ad.	Dd.	Total admissions from each class.	Total deaths from each class.	Average annual per centage of sick to strength.	Average annual per centage of deaths to sick.
Fevers......	Febris ephemera	867	4	1359	0								
	,, intermit quot.	958	16	1084	9								
	,, tertiana......	146	2	200	0	2115	51	2774	18	4889	69	31 ·351	1 ·411
	,, remittens	124	25	118	4								
	,, com : cont....	20	4	13	5								
	Cholera	14	8	257	100	14	8	257	100	271	108	1 ·737	39 ·852
Diseases of the abdominal viscera......	Dysenteria acuta	55	2	58	1	71	2	76	1	147	3	0 ·942	2 ·040
	,, chronica... ..	16	0	18	0								
	Diarrhœa.......	77	3	66	1								
	Colica..........	11	1	8	0								
	Obstipatio..	8	0	10	0								
	Hœmorrhois....	8	1	11	1								
	Enteritis........	0	0	0	0	193	6	180	4	373	10	2 ·391	2 ·680
	Peritonitis......	0	0	0	0								
	Gastritis........	0	0	0	0								
	Dyspepsia......	89	1	85	2								
	Hepatitis acuta	4	1	3	2	5	1	3	2	8	3	0 ·051	37 ·500
	,, chronica....	1	0	0	0								
Diseases of the Lungs and heart.	Catarrhus......	13	1	11	1								
	Asthma........	14	5	18	2								
	Phthisis pulmonalis.........	4	2	5	7								
	Hœmoptysis....	1	0	0	0								
	Pleuritis........	0	0	0	0	51	14	51	14	102	28	0 ·654	27 ·450
	Pneumonia.. ..	14	4	13	2								
	Carditis........	1	1	1	1								
	Palpitatio	0	0	0	0								
	Dyspnœa.......	4	1	3	1								
Diseases of the Brain.	Apoplexia......	0	0	1	1								
	Epilepsia	3	0	0	0								
	Paralysis	9	0	13	0								
	Cephalalgia....	13	0	23	0								
	Phrenitis.......	1	0	0	0								
	Ictus solis......	0	0	0	0								
	Amentia........	10	1	8	1	43	1	50	2	93	3	0 ·596	3 ·225
	Mania..........	4	0	4	0								
	Hydrophobia...	0	0	0	0								
	Delirium Tremens.........	3	0	1	0								
	Ebrietas........	0	0	0	0								
Diseases of the Eye..	Morbi oculorum	70	0	149	0	70	0	149	0	219	0	1 ·404	0
Do. Skin.	,, cutis......	160	0	184	0	160	0	184	0	341	0	2 ·205	0
Eruptive fevers......	Variola.........	4	0	1	0								
	Varicella.......	72	0	2	0								
	Rubeola........	3	0	0	0	79	0	3	0	82	0	0 ·525	0
	Scarlatina......	0	0	0	0								
	Erysipelas......	0	0	0	0								
Dropsies....	Anasarca.......	15	3	12	0								
	Ascites.........	2	1	2	0	19	7	15	1	34	8	0 ·218	23 ·529
	Hydrothorax...	2	3	1	1								
Rheumatic affections.	Rheumat. acutus	244	2	254	1								
	,, chronicus.....	179	4	208	3	426	6	462	4	888	10	5 ·694	1 ·126
	Neuralgia	0	0	0	0								
	Odontalgia......	3	0	0	0								
Venereal affections..	Syphilis primitiva..........	101	0	103	1								
	,, consecutiva..	18	0	15	0								
	Gonorrhœa.....	30	0	27	0	194	0	185	1	379	1	2 ·430	0 ·263
	Hernia humoralis...........	42	0	39	0								
	Strictura urethræ.........	3	0	1	0								
Specific diseases.....	Atrophia........	6	0	4	2								
	Beriberi........	4	1	5	1								
	Elephantiasis...	0	0	0	0								
	Lepra..........	0	0	2	0								
	Dracunculus....	65	0	27	0	89	2	54	4	143	6	0 ·917	4 ·195
	Ulcus Phagedenicum........	0	0	2	1								
	Scrophula.......	13	1	13	0								
	Scorbutus......	1	0	1	0								
Punishment.	Punitus........	8	0	7	0	8	0	7	0	15	0	0 ·096	0
Wounds and injuries...	Fractura........	11	0	8	0								
	Luxatio........	1	0	0	0								
	Subluxatio......	24	0	23	0								
	Vulnus sclopitorum...........	0	0	8	0	391	0	411	1	802	1	5 ·143	0 ·124
	,, incisum..	44	0	31	0								
	Contusio	310	0	340	1								
	Ambustio	1	0	1	0								
Other diseases, including Phlogosis Ulcus &c............		658	4	636	1	658	4	636	1	*1294	†5	8 ·298	0 ·386
Total....		4556	102	5497	153	4586	102	5497	153	10083	255	64 ·659	2 ·529

Average per centage of deaths to strength during these five years, has been 1·635.

* Of this number were

Phlogosis............	650	1
Do. do. Ulcus........	439	1
Do. do. Bubo simplex	112	0
Total....	1201	2

† The deaths under this head include besides those accounted for in the preceding note, one from tetanus, one from icterus, and one from hydrophobia.

and ophthalmia ; and the most fatal have been *cholera, fever, thoracic diseases, rheumatism and dysentery.*

The tabular statements No. 7 and 8, have been framed similarly to those given in the preceding divisions, from the abstract returns No. 2 and 4, and exhibit much interesting information relative to the corresponding diseases amongst both European and native troops.

In the Tables No. 5 and 6, are exhibited the admissions and deaths from each disease, in the various classes therein given, during a period of five years from 1834 to 1838, as in the preceding reports ; the total admissions from each class, and the mortality are also shewn, and the per centage of sick to strength, and of deaths to sick treated. The total admissions amongst the European troops amount to 9,819, with 155 deaths, from an aggregate strength of 4,582 ; the per centage of admissions to strength being 214·295, of deaths to sick treated 1·578, and of deaths to strength 3.382 ; the difference in these respects, from the results in the preceding table for ten years, is very trifling.

The total admissions amongst the native troops, during the same period of five years, (table No. 6) have amounted to 10,083, and 255 deaths have occurred from an aggregate strength of 15,594 men ; thus giving 64·659 as the annual admissions for every 100, and 2·529 deaths per cent on the sick treated ; while during the same period, the per centage of deaths to strength has been 1·635.

The tabular statements No. 9 and 10, exhibit at one view the proportion and per centage of admissions and deaths from the principal classes of disease, both amongst the European and native troops.

Fever is the most prevalent disease amongst the European troops at Bellary; but fortunately it is not of a bad character, and cases of the remittent type, except in certain seasons, are comparatively rare; the continued and intermittent forms are most prevalent. Fevers prevail principally in November and December, gradually decline in January, February and March, and occur but rarely in the other months of the year.

Continued fever, (see table No. 2) forms a large proportion of all the admissions, nearly 1-8th part; the principal cause to which it is ascribed, by the medical officers in charge of the European troops, are irregular habits, exposure to the heat of the sun during the day, and to cold at night when on guard. In many instances this fever assumes an acute inflammatory character, with local determination to the head and chest, the latter complication occurs chiefly in the cold season, and in such cases very active antiphlogistic treatment is requisite; at other seasons low typhoid symptoms occasionally appear in the course of the disease.

Intermittents are principally of the quotidian type, and as already mentioned, the cause is not clearly evident or easily discovered, as there is no rank vegetation or marshy ground near the station. The existence and marked prevalence of this form of fever at Bellary, may therefore tend to favour the opinion that the disintegration or decomposition of rocks, gives rise to, or is attended with the evolution of miasm, or a gaseous fluid of a deleterious nature, the cause of this fever; or, that the noxious effluvia may be exhaled from the black cotton soil. It is proper however to observe, that the late Staff Surgeon Smith, who had been many years at this station, has recorded in his report dated 1836, "that he never knew an instance of a European officer being seized with an original attack of intermittent fever at Bellary" and he adds "that the chief exciting causes of this disease amongst the soldiery, must be looked for in their careless imprudent habits, and exposure at night.

Dysentery occurs chiefly during the wet weather in July and August, but the cases are not numerous, and those only who are highly predisposed to it, appear to be attacked by this disease at Bellary.

Cases of hepatitis occur pretty equally throughout the year, but rather more frequently in July and August, than in the other months.

Cholera when it visits this place, almost always appears in the hot dry months, and the most severe epidemic attacks have occurred in seasons in which there has been a marked deficiency in the usual fall of rain; and another irregularity in the usual course of the season, which has been several times remarked previous to an outbreak of this disease, is the absence of thunder.

Much has been said and written, relative to the frequency of the appearance of cholera at Bellary, and the great mortality occasioned by it amongst the European troops. Table No 2, framed from the monthly returns from the division, shews exactly, the number of cases and deaths which have occurred each year; and the following table No. 20, exhibits at one view, the total number of cases of cholera treated in hospital, and the mortality which it has occasioned in each division of the army, for a period of ten years, from 1829 to 1838 inclusive; the strength is likewise given, and also the per centage of admissions to strength, of deaths to sick treated, and of deaths to strength. The average in these respects for the same period, from the grand total of the European army, is placed in the first column, which at once points out the excess or otherwise, in each of the several divisions; and the last line of the table, in which is given the per centage of deaths to strength, gives each division its place as to the relative amount of mortality produced by this disease. It will be seen, that Bellary is below the average, and that it stands 6th.

Again, as regards the general healthiness of the European troops at Bellary, compared with the other divisions of the army, the table has been extended for the purpose of exhibiting the total admissions and mortality in each division, during the same period; in which it will be seen, (table No. 21) that the ratio of deaths to strength at Bellary is considerably below the average; and in this point of view it stands 2nd in the scale.

But although this station may be considered a very healthy one for European troops, yet the sick list is generally high, and this arises principally from the frequency of venereal cases, and ophthalmic diseases; rheumatism also forms a considerable portion of the sick in hospital. This latter disease appears more frequently in the months of January, February, March and April, and in August and November, than in the other months of the year.

The marked prevalence of ophthalmia is attributed to the extreme dryness of the atmosphere, to the excessive glare and reflection from the numerous large masses of granite in the lower fort, the light colour of the ground and numerous white washed buildings, and to the fine white sandy nature of the soil. The disease commonly appears in the form of the mild purulent ophthalmia, but occasionally the deeper seated parts of the eye are involved, giving rise in such cases to opacity of the cornea, and in some rare instances to destruction of the organ. After depletion the most useful remedies have been found to be the nitrate of silver, and sulphate of copper.

Table No 20.	Grand Total.	Bellary.	Mysore.	Cannanore.	Southern Division	Centre "	Presidency.	Northern Division	Hydrabad.	Nagpore.	Tenasserim.
Strength	103131	9020	15590	7959	8922	12402	13981	6334	10557	9574	9092
Admissions from Cholera.	2833	226	641	76	256	493	392	326	234	153	36
Deaths from Cholera	770	62	92	13	75	191	136	99	43	39	17
Per centage of Admissions to strength	2 ·739	2 ·505	4 ·111	0 ·954	2 ·869	3 ·975	2 ·803	5 ·146	2 ·216	1 ·598	0 ·395
Per centage of deaths to sick treated	27 ·179	27 ·433	14 ·336	17 ·105	29 ·296	39 ·350	34 ·693	30 ·368	18 ·376	25 ·490	47 ·222
Per centage of deaths to strength	0 ·744	0 ·687	0 ·590	0 ·163	0 ·840	1 ·564	0 ·972	1 ·562	0 ·407	0 ·407	0 ·186
	average.	6	5	1	7	10	8	9	3	4	2
Table No. 21. Total Admissions	186865	17992	25425	12187	15144	19319	26057	11670	22933	23092	13016
,, Deaths	4725	285	437	300	351	728	600	643	664	377	346
Per centage of Admissions to strength	180 ·666	119 ·467	163 ·085	153 ·122	169 ·737	155 ·773	186 ·374	184 ·243	217 ·230	241 ·191	143 ·488
Per centage of deaths to sick treated	2 ·528	1 ·584	1 ·718	2 ·461	2 ·317	3 ·768	2 ·302	5 ·509	2 ·895	1 ·632	2 ·606
Per centage of deaths to strength	4 ·568	3 ·159	2 ·803	3 ·769	3 ·934	5 ·870	4 ·291	10 ·151	6 ·289	3 ·937	3 ·[illegible]39
	average.	2	1	4	5	8	7	10	9	6	3

Amongst the Native troops fever is by far the most prevalent complaint, no less than 2-5ths of the whole admissons having been occasioned by it; and, as will be seen on reference to the table No. 14. for the troops at Cuddapah, the greater proportion occur at that station. In the Cuddapah district generally, fever is the prevailing disease, and the local situation of the cantonment formerly described, may be readily supposed to contribute to its production.

Again, attacks of fever are greatly more numerous amongst the sepoys, than amongst the prisoners in the jail at that station, owing to exposure at night on guard; but the mortality from this disease amongst the sepoys, is very trifling compared with the great number of deaths which occur amongst the prisoners, who are all natives of the district. In the records of the jail it is frequently noted, "that on their (prisoners) first admission into the hospital, especially in those brought from the talook of Goorumcondah, where a bad form of fever is endemic, the sequelae, dropsy and enlarged spleen, are present, the result of repeated attacks," and the great mortality is thus satisfactorily explained.

Next to fever, rheumatism adds most men to the sick list, a complaint which is always common and severe in the Ceded districts.

As it may be interesting to give here a comparative view of the admissions and deaths from cholera amongst the Native troops in the various divisions of the army, in a tabular form, as for the Europeans, the following tables have been framed for the purpose.

From these it is evident that cholera prevails to a greater extent in the Ceded districts, than in any other division of the army; the per centage of admissions, as well as of deaths to strength, being much above the average. It has been frequently observed, that regiments while marching through this division are particularly obnoxious to outbreaks of this disease,

and the remarks given at page 72, instance several sueh epidemie attacks.—The question here arises to what influenee are these to be attributed? and if to a deleterious exhalation emitted from the soil, how is it to be explained, that a regiment shall march over ground from one station to another in a perfectly healthy state, while in another body of men on the same road, after an interval of only three days, cholera shall commit great ravages; instanees of this have been witnessed and recorded; while again instanees have occurred, where a regiment has been severely attacked with cholera on its march, and another following the same road, after an interval of only two or three days, has altogether escaped.

By the last table it would appear, that as regards the general healthiness of the Native troops, the mortality is above the average in the Ceded districts, especially in the ratio of deaths to sick treated, thus shewing a greater amount of disease of a grave nature, amongst the troops in this division; it will be also seen that the ratio of deaths to strength, is high and in this point of view it stands 8th on the scale.

Table No. 22.	Grand Total.	Ceded Districts.	Mysore.	Cannanore.	Southern Division	Centre ,,	Presidency.	Northern Division	Hydrabad.	Nagpore.	Tenasserim.
Strength	568403	35999	70016	39743	71142	644[illegible]4	60142	81806	81042	49313	14716
Admissions from Cholera.	5346	655	679	267	965	664	263	892	806	148	7
Deaths from Cholera	2413	283	262	98	473	287	140	405	377	87	1
Per centage of Admissions to strength	0 ·940	1 ·819	0 ·969	0 ·671	1 ·356	1 ·029	0 ·437	1 ·090	0 ·994	0 ·300	0 ·047
Per centage of deaths to sick treated	45 ·136	43 ·206	38 ·586	36 ·704	49 ·015	43 ·222	53 ·231	45 ·403	46 ·774	58 ·783	14 ·285
Per centage of deaths to strength	0 ·424	0 ·786	0 ·374	0 ·246	0 ·661	0 ·445	0 ·232	0 ·495	0 ·465	0 ·176	0 ·006
	average.	10	5	4	9	3	3	8	7	2	1
Table No. 23. Total Admissions	347327	17804	46976	22658	42756	31825	25944	72190	46478	30765	9921
,, Deaths	9121	581	991	507	1236	993	661	2122	1207	619	204
Per centage of Admissions to strength	61 ·105	49 ·456	67 ·093	57 ·036	60 ·099	49 ·353	43 ·137	88 ·215	51 ·351	62 ·387	67 ·416
Per centage of deaths to sick treated	2 ·626	3 ·263	2 ·109	2 ·236	2 ·890	3 ·120	2 ·547	2 ·939	2 ·596	2 ·012	2 ·056
Per centage of deaths to strength	1 ·604	1 ·613	1 ·415	1 ·275	1 ·737	1 ·539	1 ·099	2 ·593	1 ·489	1 ·255	1 ·386
	average.	8	5	3	9	7	1	10	6	2	4

The following tables, No. 24 and 25, exhibit the sickness and mortality which have occurred amongst H. M.'s troops and the H. C.'s European artillery at Bellary separately, the relative healthiness of these two bodies of men, being thus at once seen. The table for H. M.'s troops, comprises a period of ten years, from 1829 to 1838. The return for 1836, included the first quarter of 1837, and that for 1838 the first quarter of 1839, during which months the regiments were not at Bellary; this circumstance however does not vitiate the general results of the table, as no epidemic disease happened, although the number of deaths is considerably above the total exhibited in the general table No. 2; the increase arising from fever, dysentery and hepatitis. The table No. 25, for the European artillery, comprises a period of nine years, from 1833 to 1841 inclusive, when the same body of men occupied the station for six or twelve consecutive months; previous to 1833, separate returns for the detachment were not forwarded to the Medical Board office.

With regard to the greater amount of sickness and mortality amongst the artillery, compared with H. M.'s troops at this station, and which is in both points, at variance with the experience at all other stations, the following extracts from the staff surgeon's reports dated 1837, will throw some light. "The number of individuals who have been admitted more than once during the six months, amount in H. M.'s 41st regiment, to 17 admitted twice, and 6 admitted three times; while in the artillery, 18 have been admitted twice, 7, three times, 4, four times, 3, five times, and 1, seven times; so that of the admissions, amounting to 129 in the artillery, 95 are composed of, or have been occasioned by 33 individuals. There are many habitual drunkards amongst this body of men, who are frequently in hospital, and it may be mentioned, that this company has been stationed here, detached from head quarters, upwards of eleven years." Dated 1st July, 1837.

"The number of admissions into hospital in the detachment of artillery, arising from intemperance, is truly melancholy, and two of the deaths may be directly ascribed to this cause.—32 cases of ebrietas, 4 of delirium tremens, 14 diarrhœa, and 10 under the head cephalalgia, total 60, resulting solely from hard drinking, have been admitted into hospital." Dated 31st December, 1837.

Table No. 24 and 25.	H. M.'s regiments. *Aggregate Strength*, 7954. From 1829 to 1838 inclusive.				H. C. Artillery. *Aggregate Strength*, 864. From 1833 to 1841 inclusive.			
	Admitted.	Died.	Per centage of sick to strength.	Per centage of deaths to sick.	Admitted.	Died.	Per centage of sick to strength.	Per centage of deaths to sick.
Fevers........	3532	44	44 ·405	1 ·245	412	0	47 ·684	0 ·000
Cholera.................	*154	61	1 ·936	39 ·610	25	+18	2 ·893	72 ·000
Diarrhœa.......	636	7	7 ·995	1 ·100	148	3	17 ·129	2 ·027
Dysenteria acuta.......	1200	72	15 ·086	6 ·000	70	1	8 ·101	1 ·428
,, Chronica..........	68	3	0 ·854	4 ·411	7	2	0 ·810	28 ·571
Hepatitis acuta.........	680	35	8 ·549	5 ·147	87	6	10 ·069	6 ·896
,, Chronica..........	131	9	1 ·646	6 ·870	31	1	3 ·587	3 ·225
Catarrhus..............	389	3	4 ·890	0 ·771	60	0	6 ·944	0 ·000
Hœmoptysis............	11	1	0 ·138	9 ·090	1	0	0 ·115	0 ·000
Asthma................	37	2	0 ·465	5 ·405	0	0	0 ·000	0 ·000
Phthisis................	41	17	0 ·515	41 ·463	3	1	0 ·347	33 ·333
Pneumonia.............	171	8	2 ·149	4 ·678	19	1	2 ·199	5 ·263
Apoplexia.............	6	5	0 ·075	83 ·333	5	5	0 ·578	100 ·000
Epilepsia...............	21	1	0 ·264	4 ·761	3	0	0 ·347	0 ·000
Paralysis......	28	6	0 ·352	1 ·428	2	0	0 ·231	0 ·000
Amentia................	3	1	0 ·037	33 ·333	0	0	0 ·000	0 ·000
Mania..................	18	3	0 ·226	16 ·666	4	1	0 ·462	25 ·000
Ebrietas................	91	1	1 ·144	1 ·098	207	.0	23 ·958	0 ·000
Delirium Tremens......	179	2	2 ·250	1 ·117	37	1	4 ·282	2 ·702
Anasarca......	13	2	0 ·163	15 ·384	0	0	0 ·000	0 ·000
Ascites............	12	4	0 ·150	33 ·332	0	0	0 ·000	0 ·000
Rheumatismus acutus..	830	1	10 ·435	0 ·120	94	0	10 ·879	0 ·000
,, Chronicus.........	315	0	3 ·960	0 ·000	79	1	9 ·143	1 ·265
Syphilis &c.............	2694	3	33 ·868	0 ·111	370	1	42 ·824	0 ·270
Morbi oculorum........	2022	0	25 ·421	0 ·000	73	0	8 ·449	0 ·000
,, Cutis.......... ...	106	0	1 ·332	0 ·000	0	0	0 ·000	0 ·000
Other diseases.	3411	18	42 ·884	0 ·527	566	3	65 ·509	0 ·530
Total....	16799	309	211 ·201	1 ·837	2303	45	266 ·550	11·953

* Cholera prevailed as an epidemic in 1833 and 1837, and a few cases occurred in 1831, 32 and 1838.
+ Cholera was epidemic in 1839 when 12 deaths occurred.

Per centage of deaths to strength 3·884.
Do. excluding cholera 3·117.
H. M.'s troops.

Per centage of deaths to strength 5·208.
Do excluding cholera 3.125.
H. C. troops.

CEDED DISTRICTS.

No. 26.—*Table exhibiting the sickness and mortality amongst the OFFICERS of H. M.'s regiments at Bellary, during a period of ten years, from* 1829 *to* 1838 *inclusive.*

Aggregate strength. 308. CLASSES.	DISEASES.	Admissions.	Deaths.	Total admissions from each class.	Totol deaths from each class.	Per centage of sick to strength.	Per centage of deaths to sick.
Fevers......	Febris intermit quot..........	11	0	127	5	41 ·234	3 ·936
	,, remittens....	11	1				
	,, com: cont....	105	4				
	Cholera........	11	6	11	6	3 ·571	54 ·545
Diseases of the abdominal viscera......	Diarrhœa......	52	0	141	0	45 ·779	0 ·000
	Dysenteria.....	27	0				
	Enteritis.......	1	0				
	Obstipatio......	6	0				
	Hœmorrhois...	2	0				
	Dyspepsia......	16	0				
	Gastritis.......	1	0				
	Splenitis.......	2	0				
	Hepatitis.......	34	0				
Diseases of the luugs.	Catarrhus......	11	0	13	2	4 ·220	15 ·384
	Phthisis pulmonalis..........	2	2				
Diseases of the brain.	Apoplexia......	2	1	5	1	1 ·623	20 ·000
	Mania..........	2	0				
	Delirium Tremens.........	1	0				
Eruptive fevers......	Variola.........	3	1	4	1	1 ·298	25 ·000
	Erysipelas......	1	0				
	Anasarca.......	1	0	1	0	0 ·324	0 ·000
	Rheumatismus.	16	0	16	0	5 .194	0 ·000
Venereal affections..	Syphilis primitiva..........	4	0	20	0	6 ·493	0 ·000
	,, consecutiva..	1	0				
	Gonorrhœa.....	12	0				
	Hernia humoralis............	3	0				
	Morbi oculorum	13	0	12	0	4 ·220	0 ·000
	,, Cutis.....	8	0	8	0	2 ·597	0 ·000
	Other diseases..	143	0	143	0	46 ·428	0 ·000
	Total......	502	15	402	15	162 ·987	2 ·988

NOTE.—Per centage of deaths to strength 4·870

CEDED DISTRICTS.

No. 27.—*Table exhibiting the sickness and mortality amongst the WOMEN of H. M.'s regiment at Bellary, during the same period of ten years, from* 1829 *to* 1838 *inclusive.*

Aggregate strength. 1021. CLASSES.	DISEASES.	Admissions.	Deaths.	Totaladmissions from each class.	Total deaths from each class.	Per centage of sick to strength	Per centage of deaths to sick.
Fevers......	Febris intermit quot.	35	0	464	6	45 ·445	1 ·293
	,, remittens. ..	9	0				
	,, com: cont...	420	6				
	Cholera.........	25	11	25	11	2 ·448	44 ·000
Diseases of the abdominal viscera......	Diarrhœa.......	59	2	213	13	20 ·861	6 ·103
	Dysenteria.	80	7				
	Enteritis.	6	1				
	Colica..........	16	0				
	Dyspepsia......	6	0				
	Obstipatio......	7	0				
	Hœmorrhois....	6	0				
	Splenitis.	2	0				
	Peritonitis..	3	1				
	Hepatitis.......	28	2				
Diseases of the lungs	Catarrhus......	21	0	34	2	3 ·330	5 ·882
	Hœmoptysis. ..	1	0				
	Asthma........	8	0				
	Phthisis pulmonalis.........	4	2				
Diseases of the brain.	Apoplexia......	1	0	9	0	0 ·881	0 ·000
	Epilepsia.......	4	0				
	Paralysis.......	1	0				
	Hysteria.	3	0				
Eruptive fevers......	Variola.........	3	0	6	0	0 ·587	0 ·000
	Varicella.......	2	0				
	Erysipelas..	1	0				
	Anasarca.......	7	2	7	2	0 ·685	28 ·571
	Rheumatismus.	19	0	19	0	1 ·860	0 ·000
Peculiar diseases..	Menorrhagia...	1	0	72	2	7 ·051	2 ·777
	Parturitio......	69	0				
	Febris puerp....	2	2				
	Morbi oculorum	171	0	171	0	16 ·758	0 ·000
	,, cutis.......	2	0	2	0	0 ·195	0 ·000
	Other diseases..	164	2	164	2	16 ·062	1 ·219
	Tota	1186	38	1186	38	116 ·160	3 ·204

NOTE.—Per centage of deaths to strength 3·721

CEDED DISTRICTS.

No. 28.—*Table exhibiting the sickness and mortality amongst the CHILDREN of H. M.'s regiments at Bellary, during the same period of ten years, from* 1829 *to* 1838 *inclusive.*

Aggregate strength. 1704. CLASSES.	DISEASES.	Admissions.	Deaths.	Total admissions from each class.	Total deaths from each class.	Per centage of sick to strength.	Per centage of deaths to sick.
Fevers......	Febris intermit quot..........	146	4	770	31	45·187	4·025
	,, remittens.....	9	3				
	,, com: continua	615	24				
	Cholera.........	27	15	27	15	1·584	55·555
Diseases of the abdominal viscera......	Diarrhœa.......	91	15	203	38	11·913	18·719
	Dysenteria.	87	17				
	Enteritis........	3	3				
	Obstipatio......	4	0				
	Colica..........	4	0				
	Marasmus......	1	1				
	Hepatitis.......	13	2				
Diseases of the Lungs	Cynanche......	4	2	22	6	1·291	27·272
	Catarrhus......	17	3				
	Pneumonia.....	1	1				
Diseases of the Brain.	Convulsio.......	7	6	14	8	0·820	57·142
	Epilepsia.......	4	0				
	Hydrocephalus.	1	1				
	Tetanus........	1	0				
	Chorea.........	1	1				
Eruptive fevers......	Variola.........	21	3	34	5	1·995	14·705
	Varicella........	9	0				
	Rubeola.........	1	0				
	Erysipelas.......	3	2				
	Dentitio........	6	2	35	2	2·054	5·714
	Vermes.........	29	0				
	Morbi oculorum	915	0	915	0	53·697	0·000
	,, cutis....	22	0	22	0	1·291	0·000
	Other diseases..	175	7	175	7	10·269	4·000
	Total....	2217	112	2217	112	130·105	5·051

NOTE.—Per centage of deaths to strength 6·572.

CEDED DISTRICTS.

Table shewing the Number of Persons successfully vaccinated from 1829 *to* 1838 *inclusive.*

DISTRICT OR STATIONS.	Class and sex of Patients.						Total Vaccinated.	
	Christians.		Hindoos.		Mahomedans.			
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
Bellary	1,061	875	7,344	6,589	1,477	1,087	9,882	8,551
Cuddapah	456	397	7,436	6,394	1,459	1,223	9,351	8,014
Grand Total..	1,517	1,272	14,780	12,983	2,936	2,310	19,233	16,565

Number of Vaccinators in each District.

	1st Class Vaccinators.	2nd Class Vaccinators.
Bellary	1	3
Cuddapah	1	3
Total....	2	6

The number vaccinated in this division during these ten years is 35,798; the whole expense incurred, amounts to Rupees 19,488 which gives an average of about Rupees 54, 8, per hundred, or 13 pence per head in English money.

APPENDIX.

the Jails throughout the Ceded Districts.

JAIL OF	Number of prisoners the prison is capable of containing in separate sleeping cells.	Number of prisoners the prison is capable of containing where more than one prisoner sleeps in one cell.	Dietary or other weekly allowance and weekly cost per head.	Allowance of clothing and bedding and cost per head.	Description of employment and hard labour.	Hours of labour and of exercise.
BELLARY.	The Jail is not constructed on the principle of affording separate sleeping cells to the Prisoners. There are about 43 cells in all in the Jail.	The cells set apart for the native convicts are calculated to contain 596 at the rate of 2 feet in breadth, and 7 in length for each man; in addition to the above, a European prisoner has 1 room 14 feet square to himself, 26 female prisoners have two, two similar rooms, and 15 civil prisoners or debtors, have 3 rooms of the same size, in separate parts of the Jail.	Each prisoner is allowed 1 seer or 2 lb weight of cholum, the great millet or cumboo, or Raywat, or of Natcheny, at his option; or he may take half of his allowance in one grain, and half in another, and change the description of grain as often as he pleases. The grain is issued in the husk, and the prisoners beat, clean and cook it themselves after they return from work. Each prisoner is allowed weekly. 7 seers of gawaree.......... ... 0 2 4 To purchase firewood chilleys, tamarind salt &c. 0 2 4 Total per hd. Rs. 0 4 8	The annual allowance of clothing and bedding is as follows. 1 Cumbly...... 0 12 0 2 Pieces of cloth, 5 cubits each...... 0 8 0 Total Rupees.. 1 4 0	On public roads, bridges &c. spinning, cotton, and woollen thread, and weaving cloths and cumblies.	From 6 to 10 A. M. and from ½ before 11 to 4 P. M. The convicts leave the jail at 6 A. M. and give over work at 3 P. M. or soon after, according to distance, to enable them to reach the jail at 4 P. M.
CUDDAPAH.	The prisoners are kept in separate wards not in separate cells.	600.	The weekly cost of food per head is Ans. 3 and pice 6 prisoners employed at paid labour receive 80 Rs. weight of soaree per diem; those waiting trial receive 70 Rupees weight, of those in hospital 30 Rs. weight each prisoner also receives 4 pice to purchase firewood and condiments.	The prisoners are allowed each 1 cumbly a year, and ⅓ of a piece of coarse cloth every 6 months, the price of the cumbly is generally 6 Annas, and ⅓ of a piece of cloth, costs 4 Annas 8 pice.	The prisoners are chiefly employed in repairing roads, and making paper.	The hours of labour are from 7 A. M. to 12. and from 1 P. M. to 5. This includes the time in walking to and from the spot, at which their labour may be required, the intermediate hour of rest is taken at the place of labour.

Meteorological Observations, made at Bellary in 1841 *and* 1842.

	Barometer.			Thermometer.				Amount of rain.	Number of days on which rain has fallen.	Prevailing Winds.	
	Mean Maxim.	Mean Mimim.	General Mean.	Mean Maxim.	Mean Minim.	General Mean.	Mean daily rang.	Inches.	Days.	A. M.	P. M.
January 1841	28 ·70	28 ·66	28 ·68	84 ·2	73 ·6	78 ·9	10 ·5	0	0	S. E.	E.
February „	28 ·72	28 ·68	28 ·70	86 ·8	74 ·7	80 ·8	12 ·03	0·02	1	S. E.	E.
March „	28 ·63	28 ·58	28 ·60	92	83	87	9	0·03	2	N. W.	. N. W.
April „	28 ·62	28 ·56	28 ·59	94 ·2	86 ·2	90 ·2	8	4·19	8	N. W.	N. W. to E.
May „	28 ·57	28 ·50	28 ·53	92 ·5	83 ·9	88 ·2	8 ·6	·09	4	N. W.	N. W.
June „	28 ·49	28 ·43	28 ·46	88	81 ·7	84 ·9	6 ·3	4·40	12	W.	W.
July „	28 ·48	28 ·43	28 ·45	85 ·7	81 ·0	83 ·3	4 ·6	1·17	10	W.	W. S. W.
August „	28 ·56	28 ·49	28 .52	83	79	81 ·5	4 ·3	6·10	14	W.	W.
September „	28 ·53	28 ·47	28 ·50	83 ·8	78 ·5	81 ·2	5 ·2	4·61	11	N. W.	N. W.
October „	28 ·66	28 ·55	28 ·60	83 ·5	77 ·6	80 ·5	5 ·9	5·38	14	N. W.	N. E.
November „	28 ·64	28 ·59	28 ·61	82 ·7	75	78 ·8	7 ·7	0·39	5	S. E.	E.
December „	28 ·65	28 ·59	28 ·62	81 ·8	73 ·1	77 ·3	8 ·7	0·02	2	N. W.	N. E.
January 1842	28 ·71	28 ·67	28 ·69	84 ·4	74 ·1	79 ·2	10 ·2	0·7	2	S. E.	E.
February „	28 ·69	28 ·63	28 ·66	88 ·5	76 ·9	82 ·7	11 ·6	0	0	S. E.	E.
March „	28 ·68	28 ·60	28 ·64	90 ·7	81 ·5	86 ·9	9 ·2	0	0	S. E.	S. E. Variable.
April „	28 ·63	28 ·56	28 ·59	98 ·9	86 ·6	92 ·1	12 ·2	0·2	2	N. W.	N. W.
May „	28 ·58	28 ·51	28 ·54	92 ·8	82 ·7	87 ·7	10 ·1	1·89	6	from S.W. to N.W.	from S.W. to N.W.
June „	28 ·51	28 ·47	28 ·49	86 ·8	80 ·1	83 ·4	6 ·6	2·75	10	N. W.	N. W.
July „	28 ·54	28 ·49	28 ·51	85	79	82 ·0	6 ·1	0·60	7	W.	S. W.
August „	28 ·55	28 ·51	28 ·53	84 ·1	77 ·5	80 ·8	6 ·6	1·74	16	W.	W.
September „	28 ·59	28 53	28 ·56	83 ·3	78 ·0	80 ·6	5 ·2	8·44	7	N. W.	N. W.
October „	28 ·68	28 ·62	28 ·65	84 ·1	78 ·8	81 ·5	5 ·3	2·21	8	N. W.	N. E. Variable.
November „	28 ·73	28 ·72	28 ·72	82 ·8	76 ·2	79 ·5	6 ·6	8	5	S. E.	E.
December „	28 ·79	28 ·76	28 ·77	81 ·5	73 ·6	77 ·5	7 ·8	0	0	E.	E.

Statistical table for the district of Bellary, for the year 1836.

NAMES OF TALOOKS.	Extent and Population.								
	Extent in square miles.	Number of Samuts.	Do. of Mozahs.	Do. of Muzrahs.	Total of villages, and Hamlets.	Total number of fields as registered at the survey.	Number of houses.	Do. of families.	Total of persons.
1	2	3	4	5	6	7	8	9	10
Adwarie	924	18	214	43	257	41286	22139	23521	105882
Goolem	720	6	106	6	112	17713	9524	10138	45081
Panchapollem	1200	15	196	124	320	46795	20936	21718	95036
Gooty	920	14	127	91	218	27985	16381	17720	79873
Yadakee	380	10	66	97	163	24084	10543	11562	57001
Raidroog	1012	20	167	75	242	24791	14475	15138	67287
Tadputtree	448	4	75	94	169	26575	10949	12431	61710
Aruntapoor	792	11	125	162	287	33095	15189	16623	75730
Pengondah	660	8	127	233	360	37430	15096	15743	68330
Kodecondah	396	6	98	282	380	32164	10514	11036	50638
Muddugserah	450	13	159	171	330	17033	11537	11792	52306
Druwaverum	1300	16	196	172	368	33938	16957	18066	83470
Bellary	936	10	168	15	183	25769	19967	20881	89352
Kumplee	330	10	99	36	135	13651	9062	9287	33249
Hurpumphully	840	13	245	14	259	34345	12334	12472	45949
Kodleghee	1028	17	413	36	449	44122	18072	18313	70791
Howinbudgaty	720	12	177	44	221	24662	12592	12757	48223
Total	13056	203	2758	1695	4453	505438	246267	259198	1129907

Statistical table continued.

Number and description of Villages.

	Fusly 1245. A. D. 1835. Mozahs.	Muzrahs.	Total.	Fusly 1246. A. D. 1836. Mozahs.	Muzrahs.	Total.
Aumaine. Government village..	2416	1656	4072	2421	1655	4076
Aumaine. Resumed Jogheer....	9	3	12	9	3	12
Aumaine. Shrotriums..........	162	17	179	162	17	179
Total.........	2587	1676	4263	2592	1675	4267
Fixed Jodee..............	22	2	24	22	2	24
Rented..................	0	0	0	0	0	0
Permanently settled......	0	0	0	0	0	0
Surva Maunium..........	53	17	70	53	17	70
	75	19	94	75	19	94
Pesheush.................	2662	1695	4357	2667	1694	4361
	0	0	0	0	0	0
Total........	2662	1695	4357	2667	1694	4361

Sources of Irrigation.

	Fusly 1246 A. D. 1836. In repair.	Out of repair.	Total.
Cultivation Tanks.........	1218	153	1401
Channels from Rivers.....	235	29	264
Do. Do. Springs....	1493	253	1746
Wells for Circar land.....	14992	2633	17625
Emaum Wells..........	4815	0	4815
Dams across Rivers.......	45	1	46
Do. Do. lesser streams.	238	47	285
Totol.......	23066	3116	25182

Number of Cultivators and Puttahs.

	Fusly 1245 A. D. 1836. Ryots.	Puttahs	Ploughs
Stala Ryots............	68319	68819	82234
Payakaries...............	10812	10812	
Total holders of individual puttahs...........	79631	79631	
Goonchee.................	0	5409	
Total.......	79631	85040	82234

Population ascertained in Fusly 1242.

Number of Houses.	Number of Families.	Total of Persons. Males.	Females.	Total.
246.257	259.198	591.290	538.617	11.29.907

Cattle and Sheep.

	Total.......	Detail. Belonging to Cultivators.	Belonging to other persons.
Cows..........................	250058	375360	415732
Bullocks......................	282858		
She Buffoloes.	2011293		
He Do.	56383		
Sheep and Goats............	1205657	674117	531540
Total.........	19.967.49	1049477	947272

Statement of the Cultivation.

		Acres. A.	L.	A.
Total dry Garden & Wet.	Dry Land..........	1815065	27	3
	Garden Land.......	33840	11	3
	Wet Land..........	115873	38	8
	Total.......	1964783	38	14

Divisions.	Names of the Talooks.	Wet						Capable of cultivation.					
		Circar land.			Enam land.			Total Circar, Dry Garden, Wet Poonasa & Turry Bagayet.			Enam dry, Garden, wet Poonasa and Turry Bagyyet.		
Principal Collectors.	Jummulmudgoo........	58222	12	5	33505	1	8	297329	12	5	152018	12	0
	Doo,oor...............	50308	11	11	39557	1	9	293025	3	7	188660	9	5
	Kovelakoontha.........	36093	8	11	33608	1	11	295913	1	11	184381	9	7
	Chitwail...............	111461	13	10	95960	15	8	352332	5	10	182[illegible]21	3	9
	Sidhout................	58182	12	7	29676	11	3	266952	3	5	75583	4	0
	Chennoor.......... ...	55636	14	4	34665	4	8	184248	12	6	101634	4	10
	Kamalapoor............	56912	6	2	34576	7	1	192137	7	10	99519	3	3
	Goorrumcondah........	184569	14	2	143584	4	7	345169	14	0	180295	5	9
	Muddenpully...........	137673	0	2	80102	4	8	273609	7	9	114755	4	7
	Poolevendlah..........	138452	4	2	61273	9	10	461866	13	5	150182	8	9
	Roychoty.............	126750	7	8	90019	9	15	313620	1	8	137291	0	2
	Total...	1015664	10	4	676719	8	6	3276205	4	4	1566443	6	1
Sub-Collectors,	Cumbum...............	67316	15	1	49182	6	0	285907	1	5	171306	12	3
	Doopaud...............	34632	14	5	26012	8	6	417130	1	9	157608	7	8
	Budwaib...............	67951	6	2	64238	14	7	267226	1	10	117617	2	0
	Total...	169902	3	8	139433	13	1	970253	5	0	446532	5	11
	Grand Total	11[illegible]5566	14	0	816163	5	7	4246468	9	4	2012975	12	0
	Poonganoor............	117242	15	11	109755	1	1	317532	2	10	206122	12	8
	Bunganpully....	0	0	0	0	0	0	0	0	0	0	0	0
	Grand total including Pooganoor and Bunganapully	1302809	13	11	925918	6	8	4561006	12	2	2219098	8	8

Statistical table of the Cuddapah District, for the year 1836.

	Number of the Villages. Mowzahs.	Muzzrahs.	Total.
Aumanie. Govt. Villages..	1594	8348	9942
Aumanie. Anna Shrotrium	123	259	382
Total..	1717	8607	10324
Fixed Jodie..................	69	214	283
Jodie.........................	3	1	4
Rented......................	0	0	0
Permanently settled.........	0	0	0
Jagheer and Surva Maunums................	21	65	86
Moturpha....................	2	0	2
Total..	95	280	375
do...	1812	8887	10699
Paisheush....................	0	0	0
Grand Total	1812	8887	10699
Particulars of the above total			
Total of 14 Talooks.........	1744	8191	9935
Paishcush of Poonganor....	68	696	764
Total..	1812	8887	10699
Aumanie of Banganpully Jagheer............	58	14	72
Grand Total..	1870	8901	10771

Sources of Irrigation.	In Repair.	Out of Repair.	Total.
Tanks........................	7340	1290	863[illegible]
Channels as follows			
do from Pernah river...	14	5	19
do Papugin........	84	12	96
do Gondikah......	3	0	3
do Bahoodah......	137	34	17[illegible]
do Sagara	5	1	[illegible]
do Chittravahti ...	14	0	14
do Paularoo......	4	0	4
do Jumpala	4	0	4
do Coomoodrooty.	1	0	1
do Jooroonady....	6	1	[illegible]
do Pinchanuddy..	77	29	10[illegible]
do Maundivya neddy	76	13	89
do Kowndaniah..	6	0	6
do Arjoonah......	23	3	26
do Gargaya......	1	0	1
Total..	449	98	547
Channels from Springs...	927	134	1061
	1376	232	160[illegible]
Wells.....................	56241	7869	6411[illegible]
Annicut....................	98	29	127
Total...	65055	9420	71475

POPULATION.

Number of Houses.	Persons. Male.	Female.	Total.
2,21,248	5,67,228	5,14,033	10,81 261

	Number of Cultivators and Puttahs. Ryots.	Puttahs	Ploughs
Stullah ryots......	92840	91815	74776½
Payakaries........	17921	17857	0
Gonchee..........	0	1279	0
	110761	110951	74776½
Jodee ryots........	13322	1229	0
Grand Total..	12[illegible]083	112280	74776½

DETAIL.

Cattle and Sheep	Total.	Belonging to the Cultivators.	Belonging to others.
Cows............	1,81,704	1,39,931	41,773
Bullocks........	2,19,233	1,80,070	39,163
She Buffaloes....	1,35,023	1,04,382	30,641
He ——,,——....	24.122	17,113	7,009
Sheep and Goats.	7,94,732	5,28,257	2,66,475
Total	13,54,814	9,69,753	3,85,061

COORG.

Situation, boundaries & extent.

The principality of Coorg, or *Kodoogoo* as it is called by the natives, is situated in the line of the western ghauts, between latitude 12°, and 12° 52′ North, and longitude 75° 30′, and 76° 10′ East; its dimensions are, length 58 miles, and greatest breadth 25 miles; it however varies in breadth considerably, and on a rough computation, its surface may be stated to be about 1420 square miles. It is bounded on the north and east by Mysore, on the south by Wynaad, and on the west by Malabar and South Canara, which are interposed between it and the sea; its distance from which is in most places about 45 miles. It is strictly speaking a mountain region, the lowest part being elevated not less than 3,000 feet above the sea.

General description of the country.

The entire country consists of a succession of lofty narrow ridges having valleys of various extent between them, the ridges, lie parallel to each other, commencing in general with a steep abutment to the westward, and running in the general direction of the western ghauts, viz. from north-west to south-east, until they terminate in the plains of Mysore and Wynaad; of these numerous ridges the following are the most remarkable.

The first to the north-ward rises above the Bizlee ghaut, and terminates at the Cauvery, near Ramasamy Conawah, and is of no great elevation; it separates the districts of Yelloo-serza-shee-mee to the north, from the rest of Coorg.

Next to this, with the table land of Somwarpett intervening, is a ridge, the western extremity of which commences by a remarkable bluff peak of considerable elevation, called Poopayherry or Soobramuny, well known as a land mark; and which is regarded with superstitious veneration, the natives of the country considering it unlucky to ascend it, ex-

cept as a penance to wipe away sin. The scenery round its base is bold, rocky and grand, and towards Somwarpett, it becomes exceedingly picturesque, forming a succession of beautiful grassy downs, open glades, and clumps of forest trees, resembling the finest park scenery in Europe.

The next ridge in succession has three rather marked rocky peaks, the sides of which slope abruptly to the north and south, into two deep valleys, through which run the branches of the Haringhee river; the scenery here is also very pleasing.

After this comes the table land of Merkara, which is terminated on the south by a sharp declivity of 5 or 600 feet, forming the northern boundary of the great valley between Merkara and Nakanaad; it is about 18 miles in length by 13 in breadth, and consists of a succession of low narrow ridges, with fertile valleys interposed; the lowest, being nearly in the centre, forms the bed of the river Cauvery. At the north-west angle of this valley there is a break in the line of ghauts, forming what is called the Sumpajee valley, which leads by a gradual slope into the low country. The southern termination of the valley however, becomes abrupt, a ridge in this direction rising suddenly to the height of about 1000 feet; and on the west it plunges still more suddenly into Malabar, by a fall of between 4 and 5000 feet. It presents sundry peaks the most remarable of which is Tadiandamole, the highest in Coorg.

A continuation of the valley to the south-east, leads into the talook of Kiggutnaad, which is of considerable extent, but much overgrown with jungle; and further to the south-east rise the Brummagherry mountains, forming the boundary of the country in this direction; they are of considerable elevation, covered with forest trees, and abound in game; like the other mountains of Coorg, the ridge on the top is very narrow.

The general aspect of the country varies considerably in the different talooks. In the vicinity of Somwarpett, the hills are gently rounded, alternating with sloping glades, inter-

spersed with clumps of forest trees; near Merkara the hills are closer together, and more abrupt, the ravines deeper, and more wild, and the jungle in the hollows much thicker.

South of Merkara the country appears covered with wood, the only naked spots being the narrow cultivated valleys between the ridges; on descending into it however, it is found to contain numerous open spaces, the woods being neither dense, nor lofty. Kiggutnaad is thickly wooded, and the whole eastern frontier of the country bordered with jungle more or less dense, varying in breadth from 8, to 15 miles, and communicating with the jungles of Wynaad, and Mysore.

The scenery along the ridge of the ghauts to the westward is very beautiful, and though less rocky and grand than that of the Neilgherries, it is bold and varied in a high degree, the vegetation being of the richest description, and the forest trees of magnificent growth.

The valleys between the ridges, though varying in extent and relative depth, from having the same *general* direction,— i. e. from north-west to south-east,—as the monsoon winds, the temperature of the country is thereby considerably moderated, and rendered equable.

Cuddinegs. or Breastworks.

A remarkable feature of the country, and which attracts the attention of the most casual observer, is the number and extent of the *Cuddinegs*, or breastworks, which surround and intersect it in every direction. Their total linear extent,—being in many places, double, triple or quadruple—cannot be short of 5 or 600 miles; and when it is stated, that they are generally from 15 to 25 feet high, with a ditch in front of 10 feet deep, by 8, or 10 wide, some idea may be formed of the labour bestowed in their formation. The natives are entirely ignorant of the period of their construction, and of the purposes for which they were intended, generally attributing them to the *Pandeoos* or sons of Siva. That they are the works of a very remote antiquity is evident from the loss of all tradition regarding their uses, as well as from the more unequivocal testimony of enormous trees, probably the

growth of ages, which are found springing out of the walls. No satisfactory reason for their construction has yet been assigned; defence could not have been the only object, as they face one another in certain places, and in others, three or four ranges are found directly behind each other.

Subjoined are the elevations above the sea, of some of the more remarkable points in Coorg.

Poopagherry	Feet	5,682
Tadiandemole near Nakanah	,,	5,781
Merkara (B. W.)	,,	4,506
Nakanaad palace (B. W.)	,,	3,797
Soorlaby, northern range (B. W.)	,,	4,527
Bittatoor table land, (W. S. W. of Merkara) (B. W.)	,,	4,824
Veerajunderpett palace (B W.)	,,	3,399
Highest point of great road from Merkara to Frazerpett (L.)	,,	4,781
3 mile stone Do. (L.)	,,	4,500
Bhoeekerry hill Do. (L.)	,,	4,500
Frazerpett Do. (L)	,,	3,200
Coloor Betta (near Frazerpett) (L.)	,,	4,500

Rivers

The principal river of Coorg is the Cauvery, by means of which and its tributaries, nearly four-fifths of the country is drained. The only river of considerable size flowing to the westward, is the Burrepollay, which rises in Kiggutnaad, and descending abruptly through a series of deep and rocky ravines, in one of which it forms a superb cascade 2 or 300 feet high, flows along the base of the hills, by the Huggala ghaut, where it is known as the stony river, and disembogues itself into the sea a few miles north of Cannanore.

The Cauvery rises near the top of a hill, on the very verge of the western ghauts, and descending through the great valley between Merkara, and Nakanaad, makes a sudden turn to the north, and flows for 20 or 30 miles along the

(B. W.) ascertained by boiling water, (L.) by levels taken in constructing the new road.

eastern frontier, receiving in its course several large tributaries, the principal of which is the Soornauretty, or Haringhee, which drains the northern half of the country, and enters the Cauvery between Frazerpett and Ramasamy Conawah. Another large tributary of the Cauvery is the Litchman-tierth, which rises at the foot of the Brummagherries, flows north-east into Mysore, and joins the Cauvery close to Hoonsoor.

The Cauvery is not rapid in any part of its course through Coorg, and its current is in general tranquil, except at a few places where it traverses beds of granite rock; it is fordable at almost all points in the dry season, but during the monsoon at Frazerpett, where it is 225 feet wide, it rises to the height of from 20, to 30 feet.

Morasses. There are no lakes in any part of Coorg, and but few morasses or bogs, except on the site of deserted rice fields, from which however no noxious exalations appear to arise.

Climate. The temperature of Coorg is moderate and equable, the daily range of the thermometer within doors, not exceeding 6° or 8°, often not more than 2°; the thermometer seldom rises higher than 74°, or falls below 60°, in the open air. The range is a little higher during the dry season, when the daily extremes are from 52° or 53°, to 68° or 70°; the annual extremes are probably 52°, and 82°.

Thermometric ranges.

Barometrical observations. The maximum height of the barometer occurs during the dry season, when the mercury stands at 26.220, and the lowest in July, during the monsoon, when it falls to 25°. 912. The greatest daily range observed has been, 076′; the mean daily range, which is very regular being 050. The diurnal maximum occurs at 10 A. M. and the minimum at 5 P. M., with such regularity, that errors in the supposed time, have often been detected by reference to the barometer. This instrument however offers no indication of approaching changes of weather, nor has it been observed to be influenced by the lunar phases.

Hygrometer.

The hygrometrical state of the atmosphere, during half the year, is that of extreme moisture, closely approaching to saturation. During the hot season it is occasionally very dry, and sometimes undergoes most remarkable fluctuations without evident cause, and without any perceptible difference either to the eye, or to the feelings.

Detailed observations on climate.

A few detailed observations on the climate, at different seasons of the year, are here given.

The months of January and February are cold, and excessively dry, the range of temperature being from 53°, to 70°, or 72°; the mornings and evenings are to the feelings very cold, while the heat of the sun, in the middle of the day, is tempered by a constant cool breeze, from the north-east, which frequently blows with such violence, as to raise clouds of dust, and become unpleasant.

In March, the cold of the nights becomes less sensible, and the days are warmer, while the wind is less violent, the air still continues in general dry, but fluctuates considerably in this respect.

April and May are usually very pleasant months, the heat of the day which begins to be oppressive out of doors, being tempered by frequent heavy showers, and thunder storms; occasionally, though rarely, the air is close, but the nights are almost always cool.

In June, the monsoon sets in, and at the commencement is seldom violent, but about the end of the month the rain frequently falls in torrents. Between the 22d and 27th of June 1835, there fell twenty seven inches of rain, nearly equal to the aggregate annual fall in England; rain continues during July, August and September, the air becomes loaded with moisture, the sun is seldom seen; and when it ceases during short intervals, a dense fog usually prevails. The temperature at this season is wonderfully equable, the extremes of the thermometer in the open air, being 56°, and 65°.

In October, an interval of bright and beautiful weather generally occurs, rendered the more delightful by contrast,

and by the intense green of the luxuriant vegetation ; about the commencement of the month the wind sets in from the north-east, and when strong, is piercingly cold.

November is an unpleasant month, the weather being blustery, cold and showery, and there are frequent cold heavy fogs.

In December, fogs are prevalent, but towards the end of the month the weather becomes settled, when it is clear and cold, the mornings and evenings being intensely cold to the feelings.

Salubrity of the climate for Europeans.

As respects the very important point of health, there can be no hesitation in stating, that the climate of Coorg appears to be well adapted to the European constitution, provided there exists no tendency to visceral congestion.

In the great majority of Europeans, the equability of the temperature,—the average of which 60°, is that generally considered most favorable to health—the coolness of the nights, and, the advantage of being able to take exercise in the open air at all hours, during a considerable portion of the year, exert a most beneficial influence as regards health, strength and appearance ; European children are likewise strong and healthy. No slight proof of the congeniality of the climate for Europeans, is the fact, that dogs of the European breed, thrive remarkably well in Coorg, and are exempt from many diseases common to them even in southern Europe.

To the same cause, equability of temperature, the comparative immunity from rheumatic affections, coughs, colds &c. which is here enjoyed, may be attributed ; although the atmosphere is, throughout a great part of the year, loaded with moisture.

Diseases which become aggravated by the climate of Coorg.

Certain complaints such as asthmatic affections, are generally aggravated by a residence in the upper parts of Coorg, and the rarefaction of the air may probably be sufficient to account for this cir-

cumstance; chronic affections of the liver, are also apt to put on a more formidable appearance, partly from checked perspiration, in the damp cold seasons of the year, and the want of exercise during the monsoon; in dysenteric complaints when the tone of the intestinal canal has been much impaired by the disease, great care is necessary to prevent diarrhœa supervening, which is at all times obstinate, and frequently resists every means of cure, unless change of climate is restored to; Frazerpett is of great advantage in this respect, affording a considerable change, within a short distance.

Effect of climate on Natives of the Country.

Natives of the low country suffer a good deal, on first arriving in Coorg, from fever of the intermittent type and bowel complaints, occasioned in a great measure by their being imperfectly clothed, by sleeping on the ground, and indulging in the use of raw vegetables; on becoming acclimated however, they enjoy as good health as in the most favorable parts of the low country, and strange as it may appear, the monsoon season seems to agree best with them.

A few casualties which have lately occurred, have been principally from congestion of the lungs, always a formidable complaint in natives; the climate appears decidedly inimical, to the cure of cuts, wounds and sores, which are often totally unmanageable, without change of air. This is a peculiarity it is believed of other moist climates of India; such as the coasts of Malabar, Bombay, Aracan, and Tenasserim.

The tables appended contain an abstract of a daily atmospherical register kept with but little intermission, from 1st June 1835, to the 31st May 1837, and though imperfect from unavoidable circumstances, will suffice to give a general idea of the climate. See table at the end of the report.

Geological features of the country.

The geological formation of the country in the vicinity of Merkara, bears a close resemblance to that of the Neilgherries as described by Dr. Benza.* The

* Journal of Madras Asiatic Society No. 13, page 211.

rocks are primitive, consisting mostly of sienite, occasionally traversed by green stone, the whole being covered with a thick cap of lithomargic earth, composed of felspar in various stages of decomposition, the agglutinating basis being argillaceous earth, coloured by oxide of iron. In some places the agglutination is so complete as to form laterite, or soap stone, and the whole is traversed by veins of quartz, and of nearly pure felspar; the latter also occurs totally decomposed, in which state it is commonly called porcelain earth, and is used as a white wash for houses, and for cleaning soldier's belts &c.

The greenstone traverses the sienite at several places to the south of Merkara, but the section is imperfectly seen, it is of a very hard texture and receives a beautiful polish, and is occasionally found with minute crystals of pink felspar interspersed through it, but these disappear in the polishing; the section presents a uniform smooth surface, of a dark-blackish green colour*. The sienite is an admirable building stone, but its hardness renders it too expensive for common use.

Immediately over the lithomargic earth, is a stratum varying greatly in thickness, of rich vegetable mould, resulting from the decomposition of the luxuriant vegetation with which the whole country is clothed, during the greater part of the year; on the edges and slopes of the hills this stratum of earth is comparatively thin, but in the valleys and hollows into which it is washed by the heavy rains, along with a vast quantity of heterogeneous detritus, it accumulates to a great thickness, and forms a soil of great fertility, producing, with very little assistance from manure, returns of from 50, to 80 fold.

Water. Water is in general of good quality, but during the monsoon it is necessarily charged with considerable quantities of silt and mud, washed down from the higher grounds.

* A small slab of this description found in the palace at Merkara, is said to have been used as a mirror; some large blocks (4 feet by 2¼ and 6 or 8 inches thick) were made into couches, which at the sale of prize property produced large prices.

Causes of fever and bowel complaints.

The climate in many places, for two months previous to the setting in of the monsoon, when frequent heavy showers fall, is more or less unhealthy,* and fever and bowel complaints prevail to some extent, which the natives attribute to the mixture of the old and new waters as they express it; and there can be no doubt, that the first portions of water which percolate through the ground, after a long period of dry weather, becoming charged with saline particles, and decaying animal or vegetable matter, must be more or less deleterious. Europeans are more in the habit of attributing epidemics to noxious exhalations, but it is difficult to account, on the score of malaria alone, for the season preceding the monsoon being the most unhealthy, in the south of India, while in Candeish, the *terraie* of Bengal &c. the close of the rains is the most sickly season.

The period at which the military suffer most is the dry weather, evidently from exposure to the greater variations of temperature, which occur in that season, and to which their duty as guards and sentries at night subjects them.

Their febrile complaints however never put on the malarious, or intermittent type, and are rarely dangerous except when complicated with pulmonary affections.

Botany of Coorg.

The botany of Coorg is as yet an unexplored field, and would amply repay the attention of a competent observer.

Rice.

Rice which forms the staple article of the country, is of a coarse quality and not esteemed in Mysore or to the eastward, three varieties of it are produced, and the principal market for the surplus which is considerable is Malabar.

Raggy.

Raggy is cultivated in the lower parts of the country, to a considerable extent; in the upper country, it

* Particularly in Kiggutnaad, and the jungles on the eastern border of the country where fevers are so prevalent at this season as to be called Rog or Epidemic. The same is the case in the jungles surrounding the base of the Neilgherries.

is confined to patches of ground on the slopes of the hills, from which the jungle has been cleared, and the grass burnt for manure; only one crop is raised, after which the ground is allowed to lie fallow for some years, before being cultivated, when the same process is again repeated.

Tobacco. Tobacco of an inferior sort, is grown in small quantities, as also hemp, ginger and turmeric for domestic uses; coffee grows wild on the eastern border, and might be much improved.

Cardamoms. Cardamoms are found in great abundance and of good quality, in the jungles, along the western slope of the ghauts, and produce a considerable revenue; the wild nut-
Nutmegs. meg is also very common.

Sandal wood. Of the more important productions of the jungles, may be enumerated sandal wood, produced chiefly on the eastern border of the country.

Teak wood &c. Teak wood grows on the malabar side of the ghauts, also chunpunce, blackwood, darcheenee, and many other valuable timber trees.

Cucurbitaceous plants. Cucumbers and most plants of the cucurbitaceous tribe grow luxuriantly, and there is no doubt that almost all European vegetables, and some fruits, might be brought to perfection in various parts of the country.

Domestic animals. Of the domestic animals found in Coorg, the bullock is much the most common; it is of a small breed, and does not thrive in the upper country; the same is the case with sheep; but goats thrive better; horses are only kept by a few people of the higher ranks.

Wild animals. Of the numerons wild animals, the most remarkable is, the elephant, large herds of which are found in all
Elephants. &c. the jungly parts of the country, and they often do much injury to the crops. They are occasionally killed by large

parties of hunters assembled for the purpose, and since a reward for destroying them has been granted, numbers are shot annually by individual sportsmen. They are occasionally caught in pits and tamed, but are considered inferior to those of Ceylon, or Bengal.

Tigers are frequently met with, as are also cheetas and tiger cats; they appear to lose much of their ferocity in this climate, and seldom attack a man unless wounded.

Bears are comparatively rare; they appear to resemble those found on the Neilgherries, but differ from them in one remarkable particular, being exceedingly fierce, and more dreaded by the Coorgites than tigers.

The wild dog *ken-nai, sonakoota,* or *d'hole,* is frequently met with in packs of ten or twelve; they are as large as a greyhound, stronger built, and very fierce, they have been known to attack bullocks.

Several species of martens, polecats and weasels are met with.

The samber or elk is common in the more retired jungles, and the animal is hunted for its flesh, which is esteemed by the natives.

The bison as it is called is common on all the mountain ridges, where it attains to the enormous size of 17 hands high, and upwards.

The muntjak (cervus muntjak, of Cuvier) or jungle sheep, as it is sometimes called, is not uncommon, but is shot with difficulty from its frequenting the thickest coverts; it is distinguished by having canine teeth in the upper jaw, and hair covered bony processes on its skull of about four inches in length, on which the horns are supported, its flesh is much esteemed. The memina, or mouse deer is occasionally seen; its flesh is also considered a delicacy. The cheetul or spotted deer, and wild hog, and large sized hares are found in great

numbers, in the more open parts of the country. The woods are tenanted by troops of monkeys, and squirrels; of the latter there are three or four varieties.

Birds. Of the feathered tribe, the most remarkable are, the wood-cock, which is comparatively rare, and evidently migratory; the snipe, found in considerable numbers, jungle and spur-fowl, several species of cranes; Pigeons are also numerous, including the imperial pigeon, blue pigeon, the green dove a beautiful bird, and the common dove. Falcons and hawks are numerous, as are also one or two descriptions of eagle; wood-peckers exist in great variety, and of the most beautiful plumage. The baceros rhinoceres, or hornbill, of two or three varieties is found common in all parts of the country.

Fish. The Cauvery and its tributaries are well stocked with fish, which do not differ from those found in the rivers in the low country.

Reptiles. Among the reptiles are great numbers of lizards, several species of snakes, two or three of which are venomous. The cobra-de-capelle is not uncommon in the lower parts of the country; a snake of a beautiful pea-green colour with black spots, is found near Frazerpett, which is provided with poison fangs, and is said to be deadly. The bite of a species of snake found in Kiggutnaud is said to produce extensive ulcers, which are difficult to heal; scorpions and centipedes are not common; alligators are occasionally seen in the Cauvery.

The jungle leech must not be omitted to be mentioned, being one of the greatest pests of the country; after the first showers of rain on the setting in of the monsoon, it is impossible to quit the road for any distance without being covered by numbers of minute leeches, about an inch long, and not thicker than a hair, which quickly insinuate themselve under the clothes, and fasten on the skin, their bites often producing great irritation; they disappear again in the dry weather, but even then, the unwary intruder into

shady nooks, if moist and covered with leaves, is often punished for his temerity.

Insects. The entomology of Coorg if explored would doubtless be found rich and interesting. Silk worms are not bred; bees are seen in vast numbers, and a considerable quantity of wild honey and wax are found in the woods.

Roads. Previous to the occupation of the country by the British in 1834, the roads were in a primitive state, wholly impracticable for wheeled carriages, and scarcely less so for bullocks, it having been part of the policy of the Rajahs, to render their country as little accessible as possible, from an idea common to mountaineers in all parts of the world, that the chance of invasion and conquest, was thereby diminished, and which to a certain extent, is undoubtedly true; for the same reason some of the more direct, and practicable lines leading to Merkara the capital were shut up, and travelling by them prohibited.

The only track, which was entitled to the name of a road, commenced at Periapatam, passed through a thick jungle to Veerajunderpett, and led by a very steep pass, known as the Huggala, or Hinghin ghaut to Cannanore; this road was constructed by a party of pioneers, some years ago, but the pass is so steep as to be nearly impracticable for bullocks, or horses, and totally so for any other species of carriage,* and is in fact the worst ghaut in the south of India; the part of the road between Periapatam and the top of the pass, is better constructed, and with little trouble, might be made practicable for carriages; but the ghaut, and the road for eight miles from the foot of it towards Cannanore, is not capable of much improvement. This and the next mentioned road formed the line of advance of the southern column of the attacking army.

From Veerajapett† a cross road leads N. N. W. to Merkara 22 miles; this is also nearly impracticable in the wet sea-

* The declivity is in many places 1 in 3, seldom less than 1 in 4; the Ghaut is nearly 5 miles long.

† 1,100 feet lower than Merkara.

son for bullocks, and totally so at all times, for carriages, passing as it does over the ridges of all the intervening hills. On reaching the base of the table land of Merkara, here about 600 feet high, it ascends by a very steep, but well made road, the declivity of which is 1 in 3½, or 4 feet; an improvement on this line is in contemplation, and partly executed by the superintendent of Coorg, which by following the prolongation of one of the ridges, accomplishes the descent at the rate of 1 in 13 or 14 feet; and effects besides a great saving of distance.

From the bottom of the last mentioned ghaut, or pass from the Merkara table land, branch roads lead to Nakanaad palace, 18 miles, and to Talla Cauvery, the source of the Cauvery, 20 miles; they are of the same description, as the Veerajapett road, exhibiting a contempt for all the acknowledged principles of road making. From Talla Cauvery there is a tolerably easy but very long pass into Malabar, called the Thorakana ghaut.

At Periapatam commences another road, leading through thick jungle to Nunjerajpett, near the Cauvery, and thence to Merkara. This though traversing sundry steep acclivities, and descents, was formerly much the most practicable and frequented way of access, but is now totally disused.

From Merkara westward, a foot path leads to the edge of the table land 12 miles, descends by a very steep pass called the Talnair or Kurrunkall ghaut, 3 miles long, barely practicable for bullocks, and thence through thick jungle to Bellarypett, and by Pootoor to Mangalore; by this line the north-west column of attack was to have advanced, but got no further than Bellary-pett.

A road leading north from Merkara, branches off into one running north-east, by Hallary to Ramasamy Conawah, by which the principal column entered the country; and a second by Jumboor Bucka—at which latter place the north

column was repulsed—Somwarsunta, and Coodlipett, into the Mysore district of Munjerabad.

The whole of these, are in most parts little better than mere foot tracks, full of stones, and ruts, passing over the steepest acclivities, without an attempt to avoid, or render them less steep by zigzags, or turns, and in short in the very rudest state.

Since the occupation of the country by the British, an excellent road has been made by the corps of sappers and miners, from the frontier of Frazerpett,* on the Cauvery,—where it communicates through Periapatam or Betumdapoor, with the great road to Bangalore—as far as Merkara; it is 25 feet wide throughout, and in every respect admirably constructed; the slopes where occuring, rarely exceeding 1 foot in 14 or 15, but are generally much less.

The advantage of a good road in a military point of view, was perhaps never more apparent, than on a late occasion during the insurrection in Canara, where a field battery of foot artillery, with guns, train &c. marched with ease in six hours, from the frontier to Merkara; the force when entering the country in 1834, by nearly the same line, having been four days in performing the distance.

The same line of road is continued from Merkara, by a ghaut called the Soolea or Sumpajee ghaut, into Canara; by an easy slope along the north declivity of the table land, to the head of the Sumpajee valley,—5 miles west south west of Merkara—from whence there is a gradual slope of not more than 1 foot, in 24 or 25, to Soolea; from the latter place to Bellarypett and Mangalore, the country is nearly level. The distance by this road from Bangalore to Cannanore, and Mangalore, is less than by any of the old tappal, or dawk routes; and greatly facilitates the intercourse between the south of Mysore, the whole of Coorg, and the Malabar Coast.†

* 1300 feet lower than Merkara.

† Of the other passes into the country the Peria ghaut in Wynaad, is barely practicable.

Mineral productions. But little is yet known of the mineral productions of the country; the iron and steel used by the natives, are procured from Mysore.

Population. From the subjoined table the population would appear to be considerably on the increase; owing in a great measure to immigration from the neighbouring countries, on account of a preference for the system of government recently introduced into Coorg.

No accurate accounts of the marriages, the numbers living at different ages, or of the relative proportions of Coorgites foreigners, slaves, &c. can be given, partly from the apathy and ignorance, common to all native states, and partly from a fear of exciting the suspicion of the people, if enquiry was to be pushed too far on such subjects. The number of slaves is however supposed to amount to between 10 and 12000, and of foreigners, the estimates have varied, from 1,500, to 3000.

Population of Coorg (Proper) from the Jummabundee Returns for 3 years.

Year.	Coorg.					Other classes.					Grand Total.	Births.	Deaths
	Men.	Women.	Boys.	Girls.	Total.	Men.	Women.	Boys.	Girls.	Total.			
1834——35	3845	4039	3413	2907	14204	10531	13890	8651	7293	43365	57569	*	
1835——36	3602	3717	3255	2704	13271	14533	14599	9034	7542	45709	58987	2323	1675
1836——37	3955	4157	3774	3141	15027	15815	15803	10424	8368	50410	65437	3194	1098
Increase in the last year....	353	440	519	437	1749	1282	1204	1390	826	4701	6450	871	
Decrease...............													577

* No calculation is founded on this year's returns, not being perfectly accurate.

† Part of this increase is from 4354 labourers who have immigrated into the country during last year, the absolute increase is therefore 2,096

From the foregoing table it would appear :

1st.—That the population—exclusive of immigration—has been increasing in the ratio of 3.43 per cent, per annum.

2dly—That the births, exceed the deaths,—on the mean of 2 years—in the ratio, of nearly 2, to 1.

3dly.—That the number of boys exceeds the number of girls, in the ratio of 37, to 31, but in adults, this is reversed, the females, being to the males, as 41, to 39 nearly: the relative ages however not being given, no deduction can be made to account for this circumstance.

4thly.—The proportion of deaths in the years 1835-6, was 1 in 35. and in 1836-7, only about 1 in 60 : the deaths to births in 1835-36 were as 1, to 2 nearly, in 1836-7 as 1, to 3 nearly.

It is impossible to form any idea of the average longevity of the inhabitants, natives having but vague and imperfect notions of dates, they however all agree in stating that men live much longer than women, which they attribute to the early marriages of the latter; that more male children die, than females; and, that mortality among children under one year old is great, which two last statements correspond with similar facts elsewhere.

Towns & Villages. The Coorgites have only three villages, or towns properly so called, Merkara, Somwarpett, and Veerajunderpett; the latter being the largest, and principally inhabited by native christians. The members of each family live together to the number of 20, or 30, or even 60 or 70, and when a family becomes too numerous, an additional dwelling is built in the vicinity of the family abode, which is generally on the side of a hill surrounded by wood, and near their hereditary fields, to which they are much attached. Houses. Their houses are generally substantially built, having thatched roofs, and are kept very clean and comfortable; those of the better sort, form a hollow square, with a small court in the centre. Fuel. Fuel is abundant in every part of

the country, and upon the whole the people may be said to be in easy circumstances, and are well provided with food, lodging, and raiment; a great equality of feeling prevails among them, and there is but little disparity in point of wealth.

Clothing.

Their clothing is in general good, and sufficient; that of the men consists of a turban of white or blue cloth, one or more long gowns, fitting tight round the body and arms, and reaching to the feet when in dishabille, but tucked up as high as the knee when taking exercise, and secured round the waist with a handkerchief or shawl, over which is worn the belt and knife peculiar to the country, and now well known. The gown or coat is usually of thick white cotton stuff,—more rarely blue—with red embroidery on the shoulders; but they prefer broad cloth when able to procure it. The women wear one or more cloths, reaching from the breast, to below the knee; leaving the top of the shoulders naked and they have usually a small white cloth round the head.

Physical appearance of the Natives.

The men, as is well known, are a handsome athletic race, usually above the middle height, and almost uniformly well limbed. The women are not so tall in proportion, but stout and well looking, though rather coarse. The complexion of the men varies greatly and the women are comparatively fair.

Agriculture.

Agriculture is the universal occupation of both sexes, after labouring all day in heavy rain, during which they are most actively employed, a general practice is, on their return home at night, to wash the entire body with warm water, which they say counteracts the effects of wet, and cold; they are however, not particularly cleanly in their persons.

Amusements. Customs.

The principal amusements of the men, are hunting, and shooting; these are followed partly from the necessity of driving away wild animals, who would otherwise destroy their cultivation; and partly from choice. At a parti-

cular season of the year, they hold a solemn dance, from which it is thought unlucky to be absent; the men are the only performers, the women being merely lookers on. It is evidently a species of *pyn-hie,* or war dance, in which there are interludes of single combats, the individuals being armed with a long twig in lieu of a sword, and a shield; the people themselves are quite unable to give any account of the origin of this custom.

A very singular custom exists, which is a sort of community of wives, who are common among the brothers of a family.

On the marriage of an elder brother, his wife is considered the property of all the others, and as the juniors successively take wives, they in turn become common to the rest of the brothers. Some curious particulars connected with this revolting custom, are detailed by Connor. Of its origin little is known but it is said to have been owing to a comparative scarcity of women, in early times, and to have since become sanctioned by custon; they appear to be getting ashamed of it, and, it is accordingly wearing out; it may be mentioned that this custom has tended very much to disseminate the venereal disease; the younger members of the family, who resort occasionally to public women, communicating the disease to the wives of their elder brothers, and thus in succession to the whole family. Until aware of this extraordinary custom, astonishment was excited at frequently finding elderly and respectable people affected with gonorrhœa, and syphilis.

Food. The diet of the people principally consists of rice, seasoned with onions, garlic, turmeric, and the other usual ingredients of curry, and is not a little restricted by the prejudices of caste, beef being the only kind of meat not used; but their economical habits prevent their consuming much animal food, except what is the produce of the chase; and in the selection of game they are not very particular; as they eat the flesh of monkeys, squirrels and various other animals, not used by Europeans.

They have usually four meals in the day; first in the morning at 6 o'clock, and afterwards at 10, A. M., at 2, P. M., and

again at 6 or 7, in the evening; at the latter, the principal meal, milk in various forms, but principally butter-milk, is much used. They are not averse to spirits, and on occasions of feasts consume it in large quantities.

Disease. The most common diseases are fever, dysentery, asthma, venereal, piles, dropsy, jaundice, splenitis, and phthisis.

Fever. Fever is mostly of the intermittent type, and not usually of a severe form; in the lower and jungly parts of the country, before the commencement of the monsoon, it assumes a more formidable character, and frequently proves fatal. When recovery takes place it is often followed by jaundice, or splenitis; patients under these circumstances are sure to suffer a relapse the following season, unless change of air is resorted to: Dysentery is also common, and often very fatal, especially among children; it likewise prevails most extensively in the season preceding the monsoon.

Dysentery.

Phthisis. Phthisis is often met with, and is said usually to occur between the ages of 20 and 40

Variola. Variola is not unfrequent, and formerly used to be very fatal; but the Rajah many years ago, had all his subjects vaccinated; the means adopted for its dissemination being very simple, pins or needles were dipped in virus, and sent to all parts of the country, with directions for the using them. Since our occupation of the country, care has been taken to keep up vaccination, and death from small pox is comparatively rare.

Scrophula. Scrophula is very common, usually making its appearance at the age of puberty, in the form of swellings in the neck to which ulceration succeeds.

Measels. Measles is common, but not severe; and scarlet fever is altogether unknown.

Rheumatism. Rheumatism is not uncommon, but not very obstinate. Cases of insanity are not unusual; and idiocy is frequent.

Venereal diseases. Venereal disease—both gonorrhœa and syphilis is very common, owing to the circumstances before mentioned, and to the loose state of morality, as regards the intercourse of the sexes. Secondary symptoms are of frequent occurrence, and very obstinate; the people are unacquainted with any remedies for its cure, or alleviation except some vegetables.

Primary syphilitic ulcers approach more nearly to the character of the true Hunterian chancre, than is often seen in more civilized societies; the people maintain that the disease was unknown in the country, in any shape, previous to the occupation of it by the Honorable Company's troops, and give as a reason, that they were not allowed to quit the country; and that strangers were prohibited from entering it.

Ulcers &c. Ulcers, and cutaneous diseases are both common and difficult of cure.

Diseases of women. The only diseases peculiar to women, are irregularities of the catamenial discharge generally caused by exposure to cold; and they are said to suffer occasionally from dropsical swellings during pregnancy, which produce abortion about the 6th month. Women are considered to be less healthy, and shorter lived than men, attributed to the community of wives above mentioned; as well as to early marriages. The great mortality among children below one year old, is chiefly from bowel complaints, but no diseases are stated to be peculiar to them.

State of Medical science. Medicine is in a very rude and simple state; there are no hakeems or persons who practice it exclusively, and most if not all diseases are attributed to the influence of an evil eye, or the anger of the gods*; curative measures principally consists in prayers, incantations, and offerings to idols.

No prejudice whatever exists against European medicines, or practice, and people resort readily to the medical officer at Merkara, for advice or assistance; like all natives however,

* The natives rarely admit, that any place is unhealthy; but they say that occasionally, the devil occasions fever of a malignant description in certain places.

they want patience to submit to any lengthened course of treatment, and generally return to their homes, if a cure is not effected in a few days.

Materia medica. The materia medica though simple, and confined to plants found in the jungles, is not without efficacy in mild cases, particularly of a local description.

The following is a list of their chief "remedies."

Name.	Part used.	Medical effects.
Hittee Beejah....	Kernel of fruit....	In small doses of 5 or 10 grains, astringent febrifuge; in large doses narcotic and poisonous.
Thoomba Geedoh..	Expressed juice of the leaves........	Expectorant; for coughs.
Kodin Kittolee. ..	do.	Febrifuge, diaphoretic, (ordinary fever.)
Nassoomannee Baroo........ ..	do.	Febrifuge, (continued fever.)
Seepawaruthoo Sigooroo	do.	Astringent, tonic, (chronic dysentery.)
Poda Bellee	do.	Sedative, antispasmodic, (in colic.)
Mavin Beejah....	Fruit, bark and root...........	Astringent, tonic, vermifuge (in dysentery and worms.)
Gajeegatha Gada...	Juice of leaves.....	Diuretic (in dropsy.)
*Numaree Baroo..	Root.............	Febrifuge, diaphoretic (fever and venereal disease.)
Karcemartha Sagooroo	Juice of leaves.....	Purgative.
Sakec Suppoo....	do.	Diuretic (in dropsy.)
Thasula Hoo.....	Juice of leaves internally and externally........	Cooling, demulcent, purgative (in ophthalmia and local inflammations.)
Dalinba Sigooroo..	Do. internally....	Refrigerant, stomachic.
Havin Sapoo. ...	do.	Refrigerant (in erugtive diseases.)
†Haleela Beejah..	Seeds.	Purgative.

Diseases of cattle. Cattle as before observed do not thrive in Coorg; horses are subject in the wet weather, to a disease of the throat resembling laryngitis, which frequently proves fatal in a few hours, even when very active measures are resorted to. The best remedy is bleeding ad deliquium, and firing

* Periploca Indica or country Sarsaparilla, a valuable substitute for the more expensive American article.

† Probably the same as the hirleela-siyah, a common and very excellent purgative, used in Persia.

the throat*. The Rajah was always in the habit of sending his horses to the frontiers during the monsoon, and it is said, that even his elephants suffered if kept at Merkara.

Bullocks are subject to the same disease, but in them it comes on more insidiously, and though equally fatal, does not run its course so rapidly as in horses; it generally commences with purging, which is succeeded by swelling of the throat; occasionally when the animal seems about to recover, ulcers form on the legs, and the hoofs drop off. No cure is known for this complaint, which occurs at all seasons of the year.

It seems difficult to assign a cause for the uncongeniality of the climate to these aninals; the damp atmosphere alone does not satisfactorily account for it, as the climate of many countries in Europe—England for example—famous for the breed of cattle, horses and sheep, is as damp as that of Coorg, during a portion of the year. Cattle are fed exclusively on dry straw, and grass.

No information has been obtained as to the diseases of plants used as food, either by the people, or the cattle, with the exception of rice, which is subject to blight in particular situations, but is never used as food afterwards.

MERKARA.

Situation. Merkara, or Muddykerec, as it is pronounced by the natives, is the modern capital of Coorg, the fort of

NOTE.—It should have been stated under the head of "Vegetable productions" that an attempt to introduce the tea plant, by seedlings from Calcutta, totally failed, all the plants having withered. This may probably have been owing to want of experience in the cultivators, as a plant given to Colonel Crewe on the Neilgerries, and afterwards transplanted to Manantoddy, and from thence to Merkara, was healthy and covered with blossoms in April 1837.

* Several valuable horses belonging to officers of the 36th Regiment N. I. having died of this complaint at Merkara in 1834, it has since been the invariable custom to send these animals to Frazerpett or Hoonsoor, in the monsoon. A fine arab brought from Tabreez in Persia which had been in the possession of an officer six years, without a day's illness, was carried off by the disease; he was attacked at 7 in the morning, and died at 9 at night, notwithstanding bleeding, blistering, &c., the attack commenced with wheezing, and difficulty of breathing attended with swelling of the throat which gradually increased, (without however producing any febrile symptoms) till it terminated in suffocation.

which was built by Typoo Sultan A. D. 1782; the ancient capital of the province having been the town of Hallary, five miles north-east of Merkara: it is distant from Madras viâ Seringapatam, and Bangalore, 352 miles, from Bangalore 145, from Mysore 70, and from Cananore 68 miles.

Surrounding country &c. The hills around Merkara, arise abruptly from the surrounding country, forming an oblong table land, at the south-east angle of which is situated Merkara; the fort being built on the levelled summit of a small isolated hill.

On the east and north, the hills have a gentle declivity, their sides being clothed with wood; but on the south they are abrupt, precipitous and nearly naked, descending to the low or Southern division of Coorg, to the depth of from 4 to 600 feet.

On the west, the table land is elevated about 3,000 feet above the low country of Umrsoolea. A remarkable peculiarity of the hills is the extreme narrowness of their terminal ridges, which are frequently only a few feet broad, and descend abruptly on each side. They are all of a rounded form, and none rise more than 2, or 300 feet above Merkara. The table land to the west, is broken into numberless small rounded eminences, like reversed tea-cups, the valleys being filled with wood, forming a succession of very picturesque, and pleasing scenery. A peculiarity of the numerous streams found in these valleys, is that they in general flow to to the westward, although their sources in many instances are within a few yards of the declivity of the western ghauts; the country of Coorg resembling in this, as in many of its general features—although on a smaller scale—the western parts of the Neilgherries.

None of the ranges of hills in Coorg appear to possess superior advantages to Merkara itself, in a sanatory point of view.

A small river which falls into the Haringhee rises close to Merkara; there are no lakes, morasses or canals in the neighbourhood.

Watar. Water is supplied partly from the river above-mentioned, and partly from numerons springs in the immediate vicinity of the town and fort, the water from two of which is collected in large stone tanks; and a well of good water also issues from the hill, on which the fort is situated.

Fort and cantonment. The fort is placed as before observed, on the summit of a naturally isolated hill, which has been partially levelled; the soil being litho-margic earth of the same description, as that generally found throughout the country; it is distant not more than 150 yards from the boundary ridge of the table land on the south, with which it is artificially connected by a mound. On the south and south-west slopes of the hill, and below the fort, are the sepoys lines, not very regularly disposed, but tolerably clean and airy, having a stream of running water in the valley immediately below them; the huts are of the description usually erected by sepoys, wattle and mud, with thatched roofs. The regimental bazaar is on the same side of the hill; and on the north side is another artificial mound connecting the hill with the native pettah or great bazaar, which forms a street of good houses, about three quarters of a mile in length, and terminated by two buildings, the tombs of the late Rajahs.

The Fort is an irregular polygon of seven sides, at each of six of the angles of which is a round bastion, and at the seventh, a gate-way; it is surrounded by a single strong wall of stone, about 12 feet high, by 10 thick; with a parapet of masonry 5 feet high, and 4 thick; below the wall on the south, and west sides, is a fausse-braye, and an imperfect ditch; the principal gate is in the east front, and there is a sally port in the north-west angle. There is no well or tank within the fort, though a good spring issues from the base of the hill on the north west, which might probably be struck by boring or sinking a shaft*; great care has been taken in constructing drains, and the fort is at all times perfectly dry and clean.

* Besides this defect it is considered valueless, as a place of defence, against *disciplined* troops, being commanded from numerous points, within breaching distance; and could moreover be easily escaladed.

The outer gate leads to an oblong square, one side of which is occupied by a public bungalow for travellers, the Dewans' cutcherry, and the jail.

Jail. The latter building forms a square, each side of which is 82 feet in length, it encloses a small open court, and is surrounded by a verandah 9 feet wide; it contains, 2 large wards, one 42 feet by 19, the other 28, by 20; and 3 smaller ones, which are usually occupied as an hospital, and as convalescent wards; a kitchen and store room are also attached to it. The wards are all 8 feet high, and have windows 3 feet by 2; the guard room is in front, and the necessary behind, with a deep cess pool adjoining, into which quick lime is thrown at stated intervals, to destroy offensive effluvia. It is a substantial building well adapted for the purposes of a jail, and affords ample accommodation for 100 prisoners.

At the angle of the square is a large and handsome building occupied as a cutcherry,and the Superintendents residence. The second and third gateways being connected, as usual in native forts, by a traverse, lead into the inner square of the fort, which is partly flagged with granite; the south side was formerly occupied by the old palace of the Rajah, but being ruinous, has lately been pulled down.

Rajah's palace. Directly opposite the gate-way,is the new palace, a large square substantial building having numerous windows in front, and built much in the style of a french chateau.

The palace is constructed on a plan much superior to the generality of native buildings, though there is a want of light in the upper and back rooms, which formed the zenanah.

The whole upper story, and a portion of the lower front, is allotted as the officers' quarters, and mess-room; and in the rear is the public treasury; there are also numerous store rooms, &c.

Barracks. The barracks of the small detachment of European artillery consisting of 22 men, are situated in the lower story of the north-west angle of the palace, fronting outwards;

their barrack room is 23 feet long, by 26 wide, and 13 high, having one large window, and one door; the old hospital and guard room are adjoining, being separated only by a partition.

The barracks are sufficient for the accommodation of the party now occupying them, but could hardly afford room for a greater number. The space in rear of the palace, is occupied by a powder magazine; the cardamon godowns, and two small detached buildings with terraced roofs, which have been converted into solitary cells. The latter are dry and airy, though rather cold in the monsoon; no disease has been traced to them.

Hospital. The new hospital lately erected, is about 30 yards from the south curtain of the fort, with which it communicates by a sally port, the space between being the remains of the glacis, part of which has been cut away, to make room for the buildings; but before a good foundation could be obtained a perpendicular escarpment was requisite to be cut to the depth of 15 feet; the floor of the hospital is therefore 15 feet below the foot of the curtain, and the face of the escarpment constitutes a bank of that height immediately in front of the north verandah.

It is a long tiled building consisting of a native, and an European ward, a surgery, and three verandah rooms, enclosed by a verandah 10 feet wide. The native ward is 82 feet, by 21, with a fire place at each end, the doors are 8 feet high, and 4 broad, having swinging glass ventilators above the windows, which are provided with venetians. The walls are 16 feet high.

At the west end is the European ward, 25 feet by 21, with a bath room off the south verandah, the windows are similar to those in the native ward, provided also with venetian shutters, and glass swinging ventilators, there is a fire place also in this ward. A bath room, and a dead room, are attached to the hospital, both of which are 10½, by 8½; they communicate with each other, and each has a glass window 4 by 3

feet, facing the south; and there are separate cook rooms for the natives, and Europeans, and also necessaries.

Population. The population of Merkara, with the exception of a few of the higher class of natives who occasionally reside there, is composed almost entirely of the military, with their numerous dependents and followers, and Mysoreans, who are generally shop-keepers and tradesmen; the subjoined remarks therefore apply principally to the military.

Disease. By far the most prevalent diseases are fevers generally of the intermittent type, and dysentery; next to which in frequency is rheumatism.

Fever. Fever, except occasionally in the cold season, is neither severe nor obstinate, yielding to the ordinary remedies; it is generally of the quotidian type, and seldom produces engorgements of the spleen or liver; the exciting cause can generally be traced to exposure to alternations of temperature; for in the monsoon season when the climate is equable, it is rarely seen; but in the cold weather the disease is now and then complicated with congestion, or inflammation of the lungs, and is then much more formidable. Natives bear depletion better in this climate, than in the low country. Europeans are not particularly subject to fever, at any season of the year.

Dysentery. Dysentery is generally produced by imprudence in diet, or from sleeping on damp ground; it is exceedingly common among children, but is rarely fatal, except when it has existed for some time previous to applying for assistance. The application of a few leeches to the abdomen, and the use of ipecacuanha with extract of gentian generally checks the disease in a few days.

Few cases of dysentery have been met with in Europeans, these were however obstinate; but when the force first entered the country, it was very prevalent, and severe. The climate appears to be inimical to persons suffering from relaxed bowels, particularly if complicated with congestion of the liver.

Rheumatism. Rheumatism is not usually severe, and strange as it may appear, least frequent in the wet season; it now and then becomes necessary to send convalescents from this complaint out of the country for a short time, to prevent relapses.

Wounds and ulcers. Wounds and ulcers are exceedingly troublesome, and frequently slow in healing; the latter in particular sometimes resist every plan of treatment, including active constitutional remedies, and require change of air for their cure.

Cutaneous affections. Cutaneous diseases are rather common, and somewhat obstinate; psora is very prevalent, and a few cases of leprosy have been seen.

Cholera. Cholera has not been known as an epidemic, for many years, but three or four sporadic cases have been met with.

Variola and varicella. Variola is not common, vaccination having been pretty extensively practised, though not without great difficulty, as it frequently fails even in the dry season, and in wet weather seldom succeeds.

Varicella is common, but mild.

Measles and scarlet fever. Neither measles, or scarlatina, have come under observation.

Worms. Worms are very common in children, probably from the use of raw vegetables.

On the whole, as before observed, the climate must be pronounced highly favourable to the European constitution; and but little less so to the natives of the plains, at least after a short residence. There are no diseases which are considered peculiar to any class of the inhabitants.

Diseases of prisoners. The most common complaints amongst the inmates of the jail, are dysentery and fever, both, as might be anticipated, more obstinate and severe, than in the military, or free inhabitants. Subsequent to the late insurrection in Canara when the number of prisoners was greatly increased, they

amounted for some time to 500 and upwards, and were consequently a good deal crowded, the mortality was very high, 14 having died within a very short time, every mode of treatment appeared to be equally unavailing. Most of the sufferers were natives of Umrsoolia below the ghauts, and the complete change of climate and food, doubtless had much effect in producing both the disease, and the unfavorable result.

The following tables shew the nature and amount of disease and mortality which have occurred amongst the native troops at this station from 1835, when first garrisoned, till 1843, a period of nine years; and also amongst a body of prisoners kept here since 1836, a period of eight years.

Table exhibiting the number of admissions and deaths amongst the Native troops stationed at Merkara, during a period of nine years, from 1835 to 1843 inclusive.

Aggregate strength. 8902.

CLASSES.	DISEASES.	Admitted.	Died.	Admissions from each class.	Deaths from each class.	Per centage of sick to strength.	Per centage of deaths to sick.
Fevers......	Febris ephemera	337	1	1625	19	18 ·254	1 ·169
	,, intermit quot.	1217	10				
	,, tertiana......	30	1				
	,, remittens	23	5				
	,, com : cont....	18	2				
	Cholera........	7	4	7	4	0 ·078	57 ·142
Diseases of the abdominal viscera......	Diarrhœa......	156	3	456	13	5 ·122	2 ·850
	Dysenteria acuta et chronica..	101	9				
	Colica..........	93	0				
	Obstipatio......	10	0				
	Dyspepsia......	63	1				
	Splenitis.	6	0				
	Gastritis.	3	0				
	Hœmorrhois. ..	20	0				
	Hepatitis.......	4	0				
Diseases of the lungs.	Catarrhus......	54	2	98	13	1 ·100	13 ·265
	Asthma........	27	0				
	Phthisis pulmonalis..........	2	2				
	Pneumonia.....	9	5				
	Hydrothorax....	2	2				
	Dyspnœa... ...	4	2				
Diseases of the brain.	Apoplexia......	2	2	52	6	0 ·584	11 ·538
	Epilepsia.......	8	1				
	Paralysis.......	17	1				
	Mania..........	23	1				
	Tetanus........	1	1				
	Delirium Tremens.........	1	0				
Eruptive fevers......	Variola.........	2	0	58	1	0 ·651	1 ·724
	Varicella........	40	0				
	Rubeola.........	13	1				
	Erysipelas.......	3	0				
Dropsies....	Anasarca.......	51	6	52	6	0 ·584	11 ·538
	Ascites.........	1	0				
Rheumatic affections.	Rheumat acutus et chronicus..	374	5	374	5	4 ·201	1 ·336
Venereal affections ..	Syphilis primitiva..........	47	0	163	1	1 ·831	0 ·613
	,, consecutiva..	42	0				
	Gonorrhœa....	31	0				
	Hernia humoralis............	41	1				
	Strictura urethræ.........	2	0				
Specific diseases.....	Lepra..........	6	0	65	2	0 ·730	0 ·076
	Elephantiasis...	3	0				
	Dracunculus....	22	0				
	Atrophia........	28	2				
	Scrophula......	6	0				
	Morbi oculorum	43	0	43	0	0 ·483	0 ·000
	,, Cutis.....	603	0	603	0	6 ·773	0 ·000
	Other diseases..	1535	2	*1535	2	17 ·243	0 ·130
	Total......	5131	72	5131	72	57 ·638	1 ·403

Per centage of deaths to strength 0.808.

* Of this number were Phlogosis 490, Ulcus 286 and 1 death.

JAIL OF MERKARA.

Table exhibiting the number of Admissions and Deaths of the convicted prisoners. from each class of disease, from 1836 *to* 1843 *inclusive.*

Aggregate strength. 446. CLASSES.	DISEASES.	Admitted.	Died.	Total admissions from each class.	Total deaths from each class.	Per centage of sick to strength	Per centage of deaths to sick.
Fevers......	Febris ephemera	59	1	445	9	99 ·775	2 ·022
	,, int. quot......	380	6				
	,, remittens. ..	1	0				
	,, com : cont...	5	2				
	Cholera.........	4	2	4	2	0 ·896	50 ·000
Diseases of the abdominal viscera......	Diarrhœa.......	63	3	197	8	44 ·170	4 ·060
	Dysenteria.	64	3				
	Colica..........	49	0				
	Dyspepsia......	16	0				
	Icterus.........	1	1				
	Hœmorrhois....	1	0				
	Splenitis.	2	1				
	Hepatitis.......	1	0				
Diseases of the lungs	Cynanche......	5	0	51	4	11 ·434	7 ·843
	Catarrhus......	31	1				
	Asthma........	13	2				
	Pneumonia.....	2	1				
Diseases of the brain.	Cephalalgia....	5	0	11	2	2 ·466	18 ·181
	Epilepsia.......	6	2				
Eruptive fevers......	Variola.........	0	0	8	0	1 ·748	0 ·000
	Varicella........	8	0				
	Rheumatismus .	65	2	65	2	14 ·573	3 ·076
Dropsics....	Anasarca.......	2	2	3	3	0 ·672	100 ·000
	Ascites.........	1	1				
Venereal affections..	Syphilis.	2	0	4	0	0 ·896	0 ·000
	Gonorrhœa.....	1	0				
	Hernia.........	1	0				
Specific diseases..	Lepra..........	1	1	2	2	0 ·448	100 ·000
	Atrophia..	1	1				
	Morbi oculorum	11	0	11	0	2 ·466	0 ·000
	,, cutis.......	47	0	47	0	10 ·538	0 ·000
	Other diseases..	265	0	*265	0	59 ·417	0 ·000
	Total..	1113	32	1113	32	249 ·551	2 ·875

Per centage of deaths to strength 7·174.

* Of this number were Phlogosis 77, ulcers 122.

FRAZERPETT.

General description. Frazerpett having been occupied for a considerable time, by a large detachment of sappers and miners employed in making the great road to Merkara, a few words respecting it may be considered interesting. It occupies nearly the site of a fort commenced by Tippoo Sultan, called Jafferabad, or Khooshat-nuggur, which however was never finished, and is now in ruins; situated on the left bank of the Cauvery, in a bend formed by a sudden turn of the river, opposite the Mysore frontier, and 19 miles east by north from Merkara, its elevation being about 1300 feet above the sea.

Soil. The soil is alluvial, but is well drained; it is surrounded by jungle, not however very dense.

From its position the climate is hotter than that of Merkara, but during the monsoon it is extremely pleasant, as very little rain falls there, and the heat of the sun is moderated by constant clouds, and light fogs.

Climate. The nights are cool and pleasant, nor is the sun ever very oppressive at any season, except for an hour or two at mid-day; and notwithstanding its being surrounded by jungle, it is decidedly a very healthy spot. The disease of the detachment have been few in number, chiefly slight fever, and bowel complaints, and attended with but a very trifling mortality.

METEOROLOGICAL REGISTER.

The instruments with which the subjoined observations were made, were placed in a detached building, over the inner gate of the fort, perfectly isolated, and open to atmospheric influences on every side. The roof is covered with a thick thatch, and the sides venetianed; the interior is four and half feet square; the instruments being suspended on a frame in the centre, three and a half feet from the ground.

The barometer was made by Newman; and of the thermometers, one was made by Jones, one by Robinson, and a third by Dolland, all agreeing exactly in their indications. The pluviometer (Howards) is kept on the outside of the same platform.

Monthly Abstract of the daily atmospherical Register kept a

Months.	Mean temperature Thermometer. Fahrenheit.		Mean pressure Barometer corrected to 32°. Fahrenheit.		Mean of hygrometer at 10 A. M.					Total rain—inches.	Mean evaporation in 24 hours.	Prevailing winds.
	6 A. M.	10 A. M.	10 A. M.	5 P. M.	Wet Bulb.	Difference.	Quantity of moisture.	Dryness.	Dew point.			
1835.												
June........	66.7	69.9	—	—	—	—	—	—	—	44.77	20	W. N. W
July........	65.4	67.7	26.000	25.970	18.5	1.28	223.1	28.4	17.2	20.80	039	W. N. W
August......	65	68	26.007	25.980	18.6	1.	220.	24	17.4	23.25	030	W. N. W W. N. W
September..	64	68	26.050	26.010	18.3	1.8	210.	40	17.	13.53	030	E. N. E N. N. E
October.....	65	68	26.070	26.020	18.8	2	220.	40	16.5	10.24	035	W. S. W E. N. E
November...	63	67	26.115	26.080	17.7	2.8	200.	60	14.5	2.18	045	E. N. E N. N. E
December...	56	64	26.140	26.100	13.3	3.4	140.	75	8.9	—	—	N. E.
1836.												
January.....	53	64	26.160	26.100	11.	4.1	100.	120	2.2	—	—	N. N. E
February....	56	69	26.172	26.135	12.5	7.[illegible]	115.	160	2.	—	100	E. N. E
March.......	61	73	26.140	26.070	13.4	8.5	130.	154	1.1	02	105	N.E.N.W
April........	64	75	26.103	26.056	18.3	5.2	210.	134	13.[illegible]	187	057	W. N. W
May........	64	72	26.090	26.040	19.2	3.2	212.	64	16.	248	052	N. N. W
Gen. means.	61.9	68.	26.97	26.051	16.3	3.6	188.	81.	11.4		052	

Total of rain 119.14.

Merkara, from 1*st June* 1835, *to* 31*st May* 1836.

General Remarks.
The monsoon set in on the 31st May, but was not violent till towards the end of the month. The mornings were damp and foggy, heavy showers occurring in the evening. The last six days the rain fell in torrents.
The monsoon continued very mild during this month, with intervals of fair weather. The equability of the temperature (the daily range not exceeding 4°) is remarkable.
The early part of the month was foggy, with little rain, on the 11th the monsoon set in and continued with little intermission, till the end of the month.
The rain continued steady till towards the end of the month, when the wind changed to the east and the rain diminished. The period of the equinox was marked by heavy thunder storms.
The early part of the month was damp and foggy with occasional rain, about the 20th the wind settled on the N. E. quarter, and it became colder. Heavy rain from N. E. on the last few days.
The north-east monsoon gradually cleared off, and may be said to have terminated about the 17th with a heavy thunder storm; the weather then became cold and foggy with high winds.
The early part of the month continued foggy and damp, but afterwards cleared up, and became bright and fine, with very high winds, mornings and evenings very cold.
The weather throughout this month was bright and clear, mornings and evenings cold, heat of the sun tempered during the day by a constant cold wind from N. E., often amounting to a storm.
Much the same as last month, but rather hotter in the middle of the day, and less wind. The hygrometrical state of the atmosphere varied remarkably (dew point varying from 13,2 to 7. without evident cause.
First part of the month dry and warm, latter cloudy and close; a good deal of thunder. Dew point varied from 16.8 to × 17.
Occasionally dry and cool at Merkara; much rain fell all round, a few thunder storms.
A most delightful month, weather cool, clear and fine, much less rain than usual, a great deal of sheet lightning with but little thunder.

Monthly Abstract of the daily atmospherical register kept at

Months.	Mean of Thermometer. 6 A. M.	Mean of Thermometer. 10 A. M.	Mean of Barometer at 10 A.M. corrected.	Mean of hygrometer at 10 A. M. Wet Bulb.	Difference.	Quantity of moisture.	Dryness.	Dew point.	Total fall of rain	Prevailing winds.
1836.										
June........	62	68	25.980	19.1	1.6	226.4	45	17.2	20.84	W. N. W.
July........	62	64.2	26.025		Saturated.				23.74	W. N. W.
August......	60	63	26.020		Do.				24.74	W. N. W.
September ..	62	67	26.075	17.2	1.6	205.4	33	15.6	7.02	W. N. W.
October.	63	68	26.125	16.1	6.1	149.4	129.6	8.7	0.55	W. N. W.
November...	60	70	26.120	15	7.2	128.	151.	5.4	1.55	E. N. E.
December. ..	58	70	26.180	12.2	7.8	97.6	154.4	1.5	0.07	N. E.
1837.										
January.....	56	69	26.175	11.6	7.2	98.9	139.5	0.3	None	N. E.
Feberuary...	60	74	26.210	15	8.8	112.	188.4	2.5	None	E. N. E.
March......	64	76	26.170	16.4	8 9	124.	197.	4.6	1.29	Variable.
April.......	65	78	26.130	18.2	9.3	139.	218.	7.2	0.21	Do.
May.........	63	72	26.070	20	4.1	211.	93.	16.2	7.64	W. N. W.
Gen. means.	61.25	69.91	26.106							

Total of rain 87.04.

Merkara from 1*st June* 1836, *to* 31*st May* 1837.

General Remarks.
The monsoon was later than usual on setting in, and can hardly be said to have begun till the 19th. The quantity of rain also did not amount to half the fall in the corresponding month of last year. For a considerable portion of the month, the air has been so saturated with moisture, as to afford no indication by the hygrometer. The troops continue (as usual at this season) very healthy.
The monsoon has continued without intermission during the month, and the weather has been most disagreeable, exercise being almost totally precluded. The troops are very healthy, out of 12 cases in hospital, 9 are accidents.
The monsoon has continued without intermission throughout the month, with almost constant rain or fog, and high winds, the air being intensely damp, and the sun scarcely ever visible. The troops continue extremely healthy.
The monsoon continued but with diminished violence, when the weather cleared up, and has since been fine and clear with occasional fogs, and thunder storms; the wind is drawing gradually round to the northward, and the nights are becoming cold, a few cases of rheumatism and fever among natives, have presented themselves, attended with determination to the head and chest; this is usual on all changes of the weather.
The weather during this month has been unusually fine dry and clear, with high cold winds from the N. E. so much so, as to occasion apprehensions of a deficiency of water for cultivation. The number of cases of slight fever, and rheumatism among natives, has also as usual in sudden changes of weather, considerably increased, but they are generally mild and yield to the usual simple remedies.
The N. E. monsoon may be said to have almost failed in this quarter. The weather during the month except a few casual showers, has been clear dry and cold. Fevers are becoming less frequent, and the troops are in general healthy.
The weather during the whole of this month, with the exception of two light showers, and occasional fogs, has been dry and clear, the mornings and evenings cold, with towards the latter part, storms of wind from E. and N. E., the troops continue very healthy, a few cases of rheumatism and fever of a slight description notwithstanding.
The weather during the past month has been uniformly clear cold and dry, with very high cold winds. The number of cases of fever has some what increased, with a tendency in some instances to congestion of the lungs.
The weather throughout this month has been intensely dry and latterly very warm, the season being more than six weeks earlier than usual. The scanty monsoon of last year now begins to be severely felt, causing drought all over the country. The troops continue healthy.
The weather during this month has been unusually close and hot, at least six weeks in advance of the two preceding seasons, water very scarce in many places; a considerable number of cases of fever with determination to the chest occurred after the showers, on the 5th and 6th, since which the troops have been as usual healthy.
This month has been warm and pleasant; but few showers have fallen, which is unusual at this season.
The early part of the month was warm and close, with a few heavy showers. The monsoon set in on the 25th (unusually early) with a heavy thunder storm, but as yet only a small quantity of rain has fallen, slight fever and bowel complaint, have been common among the followers and prisoners in the jail, but have not prevailed among the military.

SKETCH
of the
NEELGHERRY HILLS,
shewing also
The several Passes and Roads
leading to them
Scale
8 Miles to an Inch.
Explanation
A.B.C. New line across the Burgoor Hills to avoid the feverish valley, and Pass of Guzlehully. The new Pass is traced by a dotted line. — The Boundary of Mysore is coloured green. The British territory red.
BANGALORE
Ramghernys
Closepett
Mulloor
Chennaputten
Muddoor
Budenoor
Mundium
Cancanhully
SERINGAPATAM
Arrakaira
Hullagoor
Malavelly
Cauvery River
MYSORE
SIVASAMOODRUM
Bridges
Suttigal
Kollegal
Nanjangode
Kallalei
Yellandoor
ARRACOTTARRA
or Sham Raj Nugger
HURDANHULLY
Goondlepett
Burgoor Mountains
Cannapaddyvuttum
or Sultan's Battery
Nillacotta
Teppacaudoo
Davaroyputnum
Northern Edge of the Great Ravine
Moyar River
Guzlehully Pass
Guzlehutty
Nilhatum
Goodaloor

Ootacamund
Dimhutty
Kotagherry
Jackenary
Kaylie
the Sea
Coonoor
5,000 to 8,700 ft above
Beypoor River
Nellumboor
Bowany River
Serumogay
Coonoor Ghaut
Avalanche Bungalow
Mailur
Keelconda
Nellitoray
Matepollium
Calicut Hill
Kotacad
Windoor
Palangode Hill
Chundamalla
Sheremungandy
Uttapady
Tencarray
Manaur
Copenairy
To Madras
COIMBATORE

NEILGHERRY HILLS.

General Description.

The delightful and salubrious region known under the name of the Neilgherry Hills,on which are situated the sanatarium of Ootacamund, first occupied in 1822, and the other stations, and various scattered residences of Europeans, may be described as an elevated table land rising abruptly from the low country; these hills are nearly altogether isolated from the neighbouring mountain chains, and comprise on their plateau, at an elevation of from 6,330, to 8,760 feet, quite an alpine region in miniature.

They are in extent about 50 miles in length, from the foot of the Coonoor ghaut on the east, to the bottom of the Koondah ghaut on the west; and in breadth 25 miles, from Seegoor on the north, to Soondaputty on the south.

The general form of the plateau is that of an irregular triangle, the longest side of which, the Bowany river running at its base, faces towards Coimbatore; the next side looks towards Malabar, and in the acute angle produced by these two sides, stretches out that portion of the mountain group, known under the name of the Koondahs; the third side of the triangle, looks towards Mysore, and has the Mayar river running at its base. This space is included between 76° 30″,and 70° 0″ E. long,and 11° 14″, and 11° 32″ N. Latitude. The length of what may be called the table land proper, the surface of which is much undulated, is about 30 miles, and its breadth varies from 8 to 16 miles. From the skirts of the plateau the descent is every where steep, sometimes precipitous, to the low country; and in many places so perpendicular are the sides of these hills, that a stone might be dropped into the plains, several thousand feet below. The following table of heights,* ascertained by barometrical measurement, by Major G. Underwood of the Engineers, from the foot of the Koondah ghaut, on the south-

* Taken from the Madras Journal of Literature and Science.

SKETCH of the PRINCIPAL ROADS leading to the NEELGHERRY HILLS.

ing scene" to use an expression of Coleridge, resembling the billows of the sea suddenly stilled, solidified and fixed, while in their full carreer of heaving commotion. This is more applicable to the lower hills, *mammillons* to use the expressive term of a French author, but many upwards of a thousand feet high, have the same rounded contour. The valleys or ravines at the foot of these hills, are uniformly wet, sometimes having a rivulet running through them, but more often being marshy, their being no exit to admit of drainage. From these moist places commence the beautiful clusters of wood, called sholahs, which form a peculiarly striking feature in the scenery.

They stretch along the clefts and gorges of the hills, extending on either side in a defined line, over the mountain slopes, and often leaving an interval of green sward, which conveys the idea of an artificial plantation, rather than the wild arrangement of unassisted nature. Sometimes these woods clothe the whole of a hill side, or of several neighbouring hills; frequently picturesque clumps of trees are to be seen, isolated, and having the singularly defined outline mentioned above; or they are continued along in the clefts, hollows and gorges, of the mountain side.

Scenery such as this must exhilarate the mind, and thus favorably affect the constitution of invalids.

Ghauts or approaches to the hills.

In a description of the hills an account of the approaches is essentially necessary, as the health both of the traveller and invalid, may suffer from ignorance thereof, miasm in its most deadly form, being produced in the thick jungles around their base; and as these must be traversed, the danger requires to be guarded against, lives having been lost, from delays, and from passing the night in feverish localites.

There are several passes leading to the hills, only two of which are practicable for carts, viz: those of Seegoor and Coonoor—The Seegoor pass is the shortest and easiest of ascent—It commences at Goondelpett in Mysore, at a

Seegoor ghaut.

distance of six miles from which place the road enters the jungle,—crosses the Mayar river at Tippicadoo, and ascends from the village of Seegoor by Kilhutty, for a distance of eight miles,—and from thence continues, nearly level for four miles, to Ootacamund.

A path way, at the foot of the pass on this line, proceeds due north for six miles, to the edge of a precipitous ravine, upwards of 900 feet in depth, and 2,000 feet wide, at the bottom of which flows the Mayar river; and ascending the opposite side of the ravine, it strikes into the great Mysore road at Goondelpett, making the total distance from Seegoor to Goondelpett by this route 18 miles,—instead of 33, by the great road through Tippicadoo. It is however impracticable for carriages, and from the nature of the ground could not be improved, except at a very great expense.

Coonoor ghaut. The Coonoor ghaut, at the south-east side of the hills, the second in importance, although considerably steeper than the Seegoor pass, is perfectly practicable for wheeled carriages, and is in excellent repair. It commences at Matepollium, and proceeds through five miles of jungle, to the beginning of the ascent, from whence to Coonoor, at the top of the pass, is ten miles, the rise being constant, and in many places very steep; from Coonoor to Ootacamund, a further distance of ten miles, the road is very good, and there is only one hill of any importance, about a mile and a half in length, close to Ootacamund.

Quitting Matepollium, a branch road ascends direct to Kotagherry, a distance of twelve miles—but it is exceedingly steep, and totally impracticable except for persons on foot or on horseback.

Canoot or Koondah ghaut. The third pass, is that ascending from Canoot at the south west angle of the hills, to Sisparah on the Koondahs, which communicates with the western coast by Arricode, the Beypore river offering the great advantage of water carriage to within fifteen miles of the base of the hills; unfortunately, from the great height of the Koondahs

the ascent is long and steep,—and from the quantity of rain which falls in the south-west monsoon, the road has been rendered impracticable nearly every year.

Goodaloreghaut. The fourth pass, which for many years was the principal road to the hills, ascends from Goodalore at the north-west angle, to Neddiwattam, a distance of only four miles; this road is wide and in good order, having been lately repaired; it is however so steep as to be utterly impracticable for carriages. It now forms the principal line of communication with Manantoddy and Cannanore, but is comparatively little made use of—A branch road, now totally disused likewise strikes off from Goodalore, through Karkannah, to Goondelpett.

The most eligible route is that from Mätepollium to Coonoor—there being a good bungalow at each of these points—and the distance, only fifteen miles, being easily accomplished in a few hours.. The great extent of the jungle between Goondelpett and the base of the hills, at Seegoor, a distance of upwards of 26 miles, and the danger of being detained in it, offers a decided objection to that line;—the same objection is also applicable, still more forcibly, to the Koondah pass, which is rarely traversed, except at the height of the dry season.

The following more detailed account of the passes to the Neilgherry hills, is extracted from a report to Government by the Board of Revenue in 1844.; which has been obligingly placed at the disposal of the Medical Board.

Seegoor ghaut. This pass, which was completed in the year 1838, leads in a direction nearly due north of Ootacamund, to the high road to Seringapatam, and Bangalore.

The only communication on the north side of the Neilgherries, prior to the construction of the Seegoor ghaut, was by Billikul, which runs at a short distance from it. This old pass was stated by Captain Underwood to be almost impassable. "At the best of seasons," that Officer says, "to surmount it alone, is four hours hard work for a cooly, the road "being cut in zigzags from top to bottom, up the steep face

" of a rocky stony mountain. After a heavy shower of rain, " the soil is so slippery, that it is really dangerous for foot " passengers to ascend, and loaded bullocks have been " detained in the jungle below for days together." Bad as it was, it was however much frequented by traders from the Mysore country, on account of the great circuit required to arrive at any other pass, and hence to facilitate the communication on this side, appeared an object of much importance, and the Seegoor ghaut was accordingly undertaken.

The total length of the ghaut, from Ootacamund to Seegoor, is eleven miles, the first three of which are properly on the summit of the mountain, and the last one and a half, on the low country—About half of the entire distance is upon ground nearly level, or with a very moderate inclination. The maximum rise is one foot in eight, and this only for short distances, to obtain perhaps a better level, or to avoid a difficulty. The greater part is one in ten, or fifteen. Moreover it must be remarked, that occasionally the road passes over a level, which is a great relief to men and animals. The slopes of the mountains on which the road is cut, are generally moderate, and the soil easy; advantages which saved much labour and expense at the first, and will diminish the cost of all future repairs.

This communication proceeds from Seegoor to Shembanuttum, and from thence, in a direction nearly west, to Tippicadoo, distant ten and a half miles from Seegoor, where the Pycarry or Mayar river is crossed by a wooden bridge, erected in 1841. The road here again turns to the northward, and passing through a belt of dense jungle, joins the old road from Goodalore to Goondelpett, near that place, and proceeds thence to Seringapatam, and so on to Bangalore.

Top of the Seegoor ghaut, from Ootacamund 4$\frac{3}{4}$ miles. .	Chuttrum.
Killhutty .... 3 miles 5 fur. lower down . .	Bungalow and Chuttrum.
Foot of the ghaut, 4 miles 1 fur. lower down	Chuttrum.
Tippacadoo .... 10 miles 5 fur. 110 yds., lower down	Chuttrum.
Total 23 miles 1$\frac{1}{2}$ fur.	

The ghaut is well provided with places of accommodation, both for European and native travellers. It is traversed with facility by wheeled carriages, and as no urgent reasons exist,

for halting in the unhealthy jungle near Tippicadoo, and at Seegoor, it may be safely pronounced the most useful communication with the Neilgherries. The distance from Madras by this route is thirty-four miles longer than by Salem, but the climate of Mysore, and the facilities for travelling in that country, are so much superior, that it is now generally preferred.

Road across the Mayar ravine.

At Shembanuttum, the road from Seegoor towards Goondelpett, turns suddenly to the westward, and crosses the Mayar river at Tippicadoo. East of that spot the valley of the Mayar breaks into a vast chasm, a thousand feet in depth, which was a great objection,—on account of the expense chiefly,—to continuing the road in a straight direction across it.

Subsequently however, in consideration of the danger to travellers from fever, and from wild elephants, in the jungle near Tippicadoo, as well as of the increase of distance, assumed at nine miles, by that route, it was resolved to open a new road across the ravine.*

Coonoor ghaut.

This communication stands next in importance to that of Seegoor, and was established several years earlier, the work being performed by the corps of pioneers.

Its situation is on the south-east side of the hills, where it forms the communication with Coimbatore and Trichinopoly, and also the principal one with Malabar,—being especially used by travellers from the Bombay presidency—and it is the shortest route to Madras, by Salem and Ahtoor.

The original alignment of this ghaut was faulty, although the situation is in some respects favourable, and the average inclination from top to bottom, only one foot in 12½, so much of this advantage was lost in the higher parts, which are exceedingly steep, being sometimes as much as one in five, that lower down there are level places, and even counter dips, which increase the distance, without forming a

* This work has not yet been completed.

necessary part of the communication. Owing to the great steepness, this ghaut has never been practicable to loaded bandies, but of late, its surface having been restored, it has been occasionally traversed by carts with light weights.

At three miles from the foot of the ghaut, runs the Bowany river, over which a bridge was built in 1840, and forms a most useful communication,—besides which there is a wooden bridge on masonry piers, over the Cullar, a tributary of this river, running between it and the foot of the ghaut. Near the former, is the village of Matepollium, from whence diverge the roads to Coimbatore and Trichinopoly—the former is in very good, and the latter in tolerable order.

The Trichinopoly route, was greatly improved in 1839, by the construction of a bridge over the Noyel river, and another bridge was about the same time built over a large jungle stream, between Matepollium and Annoor, the next stage.

This communication was once much used by travellers from Madras, but since the opening of the Seegoor ghaut, has been less frequented.

There is little or no jungle at the foot of the ghaut, and it has never been found feverish. Up to the year 1841, there were no places of accommodation between Coonoor and Matepolliam, a distance of fourteen miles. In that year a chuttrum was built at the Burliar stream, six miles from the summit, and affords a convenient resting place.—At Coonoor, there is a travellers bungalow, and a chuttrum.

Kotagherry and Dimhutty ghaut.

From the bridge over the Bowany, above mentioned, a road to the right of the one to Coonoor, leads to the pass of Dimhutty and Kotagherry; this is very steep and impracticable, but its difficulties were in some measure lessened, in the year 1837. It is still however much complained of, by the native merchants resorting to Kotagherry.

Road from Coonoor to Ootacamund.

The road from Coonoor is properly a continuation of the Coonoor ghaut, and was also originally constructed by the pioneers, but is treated of here as a separate subject, because it lies altogether on the summit of the hills, and has recently been the scene of extensive operations, for the improvement of its manifold defects.

The rise from Coonoor to Ootacamund, is 1,600 feet, and the distance ten miles, so that were it not for the intervention of several ridges, there would be no difficulty upon this line. The Koty-ridge, near Ootacamund, however, alone constitutes a most formidable obstacle. It cannot be turned, and its steep and rocky face renders the formation of an easy road across it, a work perfectly hopeless, without a disproportionate expense.

Koondah ghaut.

The Koondah ghaut, the next in order, forms the communication with Calicut, to the south-west of the Neilgherries.

The first operations carried on here, were in 1832, by the corps of pioneers, assisted by hired coolies: they were suspended in consequence of the rains, and the work left imperfect. At the latter end of 1835, it was again resumed, and finished in 1838.

There are three bungalows upon this line, at Cheecheparah or Sisparah, Marakullum and Edamunnah, besides the Avalanche between the ghaut and Ootacamund. The Sisparah bungalow, at the top of the ghaut, was built of wood, there being no facilities for building with masonry in that situation. It is to be regretted that it does not afford comfortable accommodation, and that the choultries constructed at five places along the route, are also considered quite unfit for so severe a climate as that of the Koondahs.

The length of the ghaut is twelve miles, from Goolical to Chalacal, and the average inclination is estimated as high as one foot in nine, while it is often actually much in excess of

this, through the loss of distance in level places, as in the Coonoor ghaut. The natural difficulties of the ground are very great, and it is supposed that what appears faulty in the alignment, is to be attributed to the impossibility of obtaining a more uniform slope, without a great increase of distance and expense, The "ladder hill," near the middle of the pass, constitutes the principal obstacle, which is surmounted by steep zigzags, at very acute angles, rendering the road alike difficult to every description of transit, and almost impossible to be kept in repair. It is quite impracticable for wheeled carriages, and every idea of making a carriage road in this situation, if ever entertained, is now abandoned.

The road from the top of the ghaut to Ootacamund, thirty miles long, is also difficult, and passes over a bleak country, where the severity of the weather has sometimes proved fatal to native travellers.

The jungle at the foot of the ghaut is about six miles in breadth, which is considerably less than at any of the parallel communications, but notwithstanding this advantage, the route has been very little used by natives, and Europeans are often prevented from following it, by the unwillingness of the coolies to encounter the severity of the climate, with wretched places of shelter.

Goodalore and Carcoor ghauts.

These passes are situated to the north west of the Neilgherries. The Goodalore pass leads from the hills, into the Bala-ghaut of Malabar, and the Mysore; but the Carcoor continues the communication with the coast, in a south-westerly direction.

Little has been done for the improvement of these passes, which are ancient native communications, still in constant use.

The Goodalore ghaut is very steep, but practicable for the ordinary traffic of the country, and although a line has been lately opened, from Sultan's battery to Tippicadoo, in order

to enable traders from the direction of Manantoddy, to make use of the Seegoor ghaut, the saving of distance by the old line of Goodalore, has been a sufficient inducement to them, to follow it in preference. The route by Goodalore, Manantoddy, and the Paria ghaut, to Cannanore was formerly much used by Bombay travellers, who now generally prefer the one by Paulghautcherry and Coonoor.

Soondaputty or Keeloor ghaut.

The Soondaputty or Keeloor ghaut, is situated to the south-east of the Neilgherries, forming part of a communication with Malabar by Manār, where there is another ghaut to be crossed, in order to reach the low country.

It does not appear that it has been explored by the officers of this Government, but the road from the foot of Keeloor, along the valley of the Bowany, and across the Manār ghaut, is deserving of particular attention, not only as a means of communication with the Neilgherries, but more particularly as being a shorter route by thirty miles, than that by Paulghaut, from Coimbatore and Malabar.

A better line it is supposed might be laid out to the northward, without much expense. The road above this ghaut, to Soondaputty is described as naturally good, and bordered all the way with houses and cultivation; it has been used from time immemorial, and there is nothing but the difficulty of the Manar ghaut to deter traders and travellers.

The Soondaputty ghaut is already much used, and the annual number of bullocks which pass through it, is 2,500, and it is expected would be greatly increased, were some of the principal obstacles removed.

Tullapoya ghaut.

The Tullapoya ghaut lies to the west of Soondaputty, and nearly south of Ootacamund, with which it is connected by Munjenaud, and Mail Koondah, and with Manar, by Uttapady, and Chunagum.

Little is known of this pass, except that its line of com-

munication is with the most cultivated and populous parts of the Neilgherries, and that it is used only by the Buddaghurs.

The only roads remaining to be noticed, are the minor ones on the summit of the hills. These are all bridle paths, but serve sufficiently well for the purposes of communication. The roads about the cantonment of Ootacamund, have been lately much improved, and carriages are frequently used upon them.

Geology and constitution of the soil.

Attention has lately been much directed to the production of diseases from terrestrial exhalations, dependent on the nature either of the rocks, or soil; should these be proved sources of morbific influences, the student of medicine must hereafter pay more attention, to the subjects of mineralogy and geology, than has hitherto been bestowed upon them.

The foundation rocks of the entire Neilgherry plateau, are of the primitive kind, and comprise the following varieties:—

1st.—Granite, sometimes composed of the three minerals, *mica*, *felspar* and *quartz*, but very extensively in the form of a binary compound called *pegmatite*, consisting of the two latter minerals only; hornblende, also, frequently enters into the composition of the granite, sienite giving a great variety to the appearance of the rock, and garnets are found in vast abundance, generally amorphous, but sometimes granular. The true granite consisting of mica, quartz and felspar, almost always forms the most elevated peaks:—

2d.—Hornblende rock, or primitive *greenstone*, composed principally of hornblende, mixed in a great variety of proportions, with felspar, quartz and garnets:—

3d.—Quartz in very considerable veins in the granitic rocks:—

4th.—Felspar in large veins:—

5th.—Basalt in vast dykes and veins:—

6th.—Magnetic iron ore, mixed largely with quartz :—

7th.—Hamatitic iron ore; both these ores are found in vast beds, in the granitic and hornblende rocks :—

8th.—Titaniferous iron ore, in moderate quantities :—

9th.—Umber, in small quantities :—

10th.—Manganese, in small quantity :—

11th.—Hornblende slate, in low situations in the valleys, and on the flanks of the plateau :—

12th.—Gneiss, containing hornblende, also on the flanks of the plateau.

The composition of these rocks would indicate the existence of a rugged contour, the spiry peaks and precipitous facade of granitic mountains; but these forms obtain in a very slight degree, for the rounded, undulating character of the hills, resembles more the forms assumed by calcarious formations, and depend upon a peculiar mode of decomposition of the rocks, which together with the soils resulting therefrom, may be thus explained.

The most common surface soil over the whole plateau, is a fine vegetable mould, from 2 to 3 feet, or more in thickness, of a brown colour, and crumbling easily.

Frequently a black soil is observed uppermost, especially in the valleys; when moist, it is of an intensely black colour, resembling soot in appearance; but when dry, it more approaches a brown colour, and is friable; it sometimes under-lies the vegetable soil, but is never seen above it, and it is not confined to the low grounds, but is found on the slopes of the highest hills, many feet in thickness. In one of the cuts for the new line on the Coonoor road, through the ridge overlooking Kaitee valley on the Ootacamund side,—is a section showing a layer of black soil, resting at a highly inclined angle, of 11 feet in thickness. This spot is several

hundred feet above the level of the Ootacamund lake. In appearance it strongly assimilates to the regur, or cotton soil, of the plains of India; but in chemical composition the two differ widely, and their origin must also be different. The black soil appears to be of vegetable origin, and its position, on the slopes of the hills, is a geological anomaly.

Lying under the vegetable mould, or the black soil, is seen a layer of gravel from a few inches to several feet in thickness, the debris of the subjacent rock. The fragments of which this gravel is composed, are small in size, and for the most part angular in shape, evincing that they have not been transported far from the spot whence they were derived.

In the very numerous sections for the roads around Ootacamund, and in the other places where similar sections afford opportunities of observation, this layer of gravel is invariably seen, forming a meandering line, in the situation above noted, and following all the undulations of the foundation rock. Upon examination it is found, that the pebbles of which it is composed, are of the same composition as the rock on which it is incumbent. One singular anomaly however is, that while the subjacent rock is decomposed, as will be hereafter seen, to a depth of many feet, the detritus retains more or less of its original hard structure.

This is not the place for the discussion of geological theories, but it may be observed, that this arrangement of the superficial strata, would seem to have taken place anterior to the elevation of the mountains, to their present height. It does not seem probable that the detritus could have accumulated, and been covered in by the vegetable or black soil, on the precipitous sides of the hills, as they now stand; but it is more likely that these upper strata, existed when the present table land of the Neilgherries, was at a much lower level. From the precipitous and abrupt manner in which the sides of the plateau descend to the plains of Mysore, and Coimbatore, it would appear as if the general upheaving force had been exerted upon the whole region, elevating it at once,

to its present altitude *en masse*, and disturbing the surface of the upraised area, only so far as to produce the undulating inequalities observed on the now existing plateau, and thus originating the otherwise unaccountable position of the superficial soils, and subjacent debris; here and there only the erupted rocks bursting through the generally smooth outline, and presenting few projecting masses, and fewer scarped and mural precipices, such as are usually seen in granitic tracts. Underneath these strata, lies the foundation rock, which is almost always in a singular state of decomposition. The hornblende rock decomposes into a red or yellow lithomargic earth, of a variety of shades; the pegmatite into porcelain earth, in which the felspar softens into a pure white clay, and the quartz disintegrates only; the felspar veins again decompose into unmixed Kaolin. The iron ores, too, decompose in situ, forming a substance resembling what in the low countries is called laterite or iron clay, and a kind of conglomerate results, from the agglutination of the detritus of this rock.

The lithomargic earth is clearly the result of the decomposition of the hornblende rock, for the process can be most distinctly traced in various places; the different minerals of which the rock is composed, being each visible in their separate modes of decay, the hornblende and garnets, by the hyperoxidation of their ferruginous constituents, giving the prevailing tints to the mass. It is impossible to say how deep into the mountain this decomposition is going on, for in the deepest sections that have been made, the process is still observed. In the new line lately formed on the Coonoor road, there is a magnificent cut through the whole thickness of a hill, between Kaitee and the valley, in which is located the pioneer camp, and here the process may be admirably observed. The section is 78 feet deep, and the lofty wall on either side, is entirely composed of the red lithomargic earth. In the centre of the road, while it was yet (1842,) in progress of formation, stood a huge globular mass in its original site, a ton or more in weight, the still undecomposed nucleus of a vast sphere, and here the rock might be observ-

ed in every stage of decay. In the centre was seen the highly crystalline hornblende rock, and towards the circumference, the gradual changes were observable, the stone at first acquiring a pale dusky brown colour, and gradually changing, till it ended in the soft lithomarge.

It is evident, then that this decomposition is still going on to an indefinite extent, into the very centre of the mountain; it is evidently quite independent of atmospheric influences; and indeed when the rock is exposed to the air, as it often is, in projecting masses of various size, it is hard and not much altered in structure.* It takes place, too, with some relation to the original crystalline structure of the mountain masses, which peel off in concentric lamellæ, leaving a central nucleus, which, when detached from the mass to which it belonged, appears like a bolder, and might be easily mistaken—as indeed they often appear to be in low lands—for fragments that have been rolled from a great distance. The road sections present numbers of these spheroids, and show the mode of decomposition described.

It is partly owing, no doubt, to this mode of decomposition that the hills acquire their rounded form, for whole mountain masses have the same spheroidal crystallization, and nothing is more common than to see the undecomposed rock, the pegmatite more particularly, splitting into fragments, which at first sight appear tabular, yet on closer examination, are seen to be spherical; but, the circle of which, they are segments, is so vast, that their form is not at first sight perceived, the fragments appearing flat.

Thus the peculiar rounded form of these hills appears to be accounted for, by the progressive decomposition, on the large scale as above described, the rock itself becoming rounded off, and smoothed still further by atmospheric influences, when sufficiently exposed to them; the action of these agents however, being prevented from laying bare the

* It would seem to be a continuous chemical action, which once commenced, has a tendency to spread geocentrically.

undecomposed rock, by the thick layer of soil, bound together by a closely contiguous and luxuriant vegetation, protecting the lithomargic earth from disintegration, which would otherwise be carried off by torrents of rain.

The valleys are swampy, but emit no offensive exhalations, and present a highly luxuriant vegetation of marshy plants, the surface being so boggy as not to permit the passage of a man over it. In these places the water collects from the clefts and gorges of the surrounding hills, and drains sluggishly off, until it comes to a spot where the declivity admits of its flowing in a stream to the low country.

Springs and Streams.

Where the ground is sufficiently inclined, streams of water of the purest quality are found and springs arise from every hill side ; at Ootacamund they are led off by small artificial channels, to the different houses. The water is usually very pure, but sometimes contains iron in small proportions.

Lake.

Advantage is taken of the streams which flow from Dodabet, and the ranges of hills to the north of Ootacamund, to form an artificial lake. For this purpose a dam has been thrown across a defile, among the hills to the south, and a very considerable body of water has been thus accumulated, which forms an ornamental, and pleasing addition to the landscape. It occupies the winding low land, hardly to be called a valley, around which are situated the houses forming the station of Ootacamund. This lake is about 3½ miles long, and varies in breadth, from about 50 to 200 feet.

On the table land of the Neilgherries, there are properly speaking no rivers, but the streams which pour down on all sides, to form the *Bowany and Mayar*, which wash the base of the mountains, are very numerous. The *Pycara*, is however a considerable stream, and flows down the N. W. angle to join the Mayar; and the waters of the lake, and the mountain rills to the N. of Ootacamund, become a torrent, which rushes down the gorge, from Killhutty to Seegoor, forming the source of the *Mayar*.

Water falls. The waters never accumulate in a sufficient body to form cataracts of much magnitude or sublimity, but the falls at Kaytee and Killhutty are picturesque; as are also those of the tributaries of the Bowany river in the Koondahs; and there is a considerable fall or weir, in the Pycara river.

Population. The number of inhabitants of the Neilgherry hills, is computed to amount to between 5 and 6000, who are divided into three principal classes viz.: *Toders*, *Buddagurs*, and *Kotars*. The former occupy almost exclusively the elevated western part of the hills, consisting of pasture land, and which bears their name. The two others dwell in distinct villages, in the eastern or lower range, known as the Buddagur country.

Toders. The toders a very remarkable race of men, are in stature above the general height. They are firm, erect, and muscular, have a brown complexion, and a cast of feature said to resemble that of the jew. Their hair is short and curled, and their beards bushy; their features are so regular, that in an entire village, scarcely a man can be found who might not be called handsome. They wear no turbands, and their only clothing consists of a piece of coarse cloth, thrown over one shoulder, and folded on the body after the fashion of the highland plaid. The men however, cover their heads when in mourning. The toder women have long hair, which is parted in the middle, and allowed to flow in ringlets over the shoulders. They wear the same description of clothing as the men, differing in this respect, from all other native women. Both sexes are very uncleanly in their persons, and like some of the castes in the Malabar provinces, never change a cloth when once put on, but wear it till it drops off piecemeal. The toders are represented as being frank in their disposition, and possessing an independence of character, such as often distinguishes mountaineers. They are remarkable for a great flow of spirits, are fond of music, and soon become attached to the European residents. These people are hindoos, and are considered to be the earliest

inhabitants of the hills. They are a pastoral race, occupied solely in tending herds of buffaloes, and migrate from place to place, according to the state of the pasturage, and the season of the year; they entirely neglect cultivation. The violence of the south west monsoon, is avoided, by moving to the eastern verge of the todier-naad or todar land, and the north east, by shifting again to the western side. Their villages are formed of a collection of small huts, which from front to rear, are similar in shape to the arched roof of a waggon, without any opening but the entrance, the ends being closed with wood. The door is low and very small, and the roof and sides, are constructed of wattle and thatch. They live chiefly on the produce of their cattle, and use milk in their culinary processes, in place of water. The little grain made use of by them is procured from the Buddagurs and some accounts say, that it is received in the way of tribute, for permission to occupy and cultivate the hills; or that it is exacted under the influence of a superstitious idea of their being necromancers, a notion stated by Buchannan to be prevalent among the inhabitants of the low country, with respect to all the natives of the hills.

The toders have been suspected of female infanticide, which opinion seems to derive some support, from the small proportion of adult women to be seen, and from the custom amongst them, of all the brothers of a family, living promiscuously with the same wife. This practice is not however peculiar to them; but is common in some tribes in Malabar, as noticed in a former report. Some of these people are said to have acknowledged the practice of infanticide, but as it is also said, that amongst the children of the present time, there is no disparity of sexes, it may be supposed that it does not now exist. It is scarcely credible that such a custom can prevail, except by supposing, that infants are destroyed immediately after birth.

The toders are a very healthy race of people, and have no knowledge of medicine. They speak a corrupt dialect of the Canarese, which is common to all the inhabitants of the hills, but each caste has also its peculiar dialect; their numbers

have been estimated at about 264 males, and 163 females; forming a total of 427.

Buddagurs. The various tribes of buddagurs, who are called by some writers *bergers*, are also hindoos, and are the principal agriculturists. They inhabit the lower, or eastern range of the hills, and constitute the chief part of the population; their numbers being estimated at 2,455 males, and 2,453 females, total 4,908, and are subdivided as follows:

		Males.	Females.	Total.
Buddagurs		1992	1979	3971
,,	Lingavunders	163	186	349
,,	Aroovers	92	104	196
,,	Cunnakers	90	87	177
,,	Toriers	89	85	174
,,	Buders	9	12	21

There are some buddagur villages however, situated within the todier-naad. This race is somewhat superior in aspect to the natives of the plains; have rather a light complexion, and a little of the European contour of feature, particularly the Grecian nose, and are healthy in appearance, though wanting the physical strength, of the inhabitants of the other temperate climates.

They are said to have originally emigrated from Mysore, about 200 years ago, whence their name, vada-gar or buddagar, *vada* signifying north. Polygamy is permitted amongst them, yet they have seldom more than one wife. Their marriages are productive, and twelve or fourteen children, by one mother, is stated not to be very uncommon.

The food of the buddagurs consists chiefly of coarse grain, a scanty portion of milk and butter, and vegetables. They have no aversion to animal food, and eat the young male buffalo, but poverty places it generally beyond their reach. They mix their flour with water, in which state they generally eat it, without any further culinary process. The women and children are even worse fed, having often only the bran, or refuse of the grain.

They plough the land repeatedly, and manure it before sowing the seed; and obtain two crops in the year. Their impliments of husbandry do not differ from those in use on the plains. The plough is followed by the women, who with a stick, and mallet break the clods; and to them also is intrusted the charge of weeding and reaping the grain.

This tribe possesses herds of bullocks and buffalocs, and use oxen in ploughing; the cattle are always milked by the men, the women not being allowed to approach them, nor are they ever employed in that occupation. They are said to be addicted to the use of opium. The men wear the same kind of coarse wrapper as the toders, but have in addition, a handkerchief or turband on the head. The women also use the wrapper, which is drawn into folds, tight round the body, and fastened by a girdle or string, under the arms; these people are quite as uncleanly as the toders, and like them never change their dress. They live in small villages, seldom containing more than 20 houses, distinct from the other tribes, and pay a tribute of grain to the toders. Their huts do not differ materially in construction, from those in the low country.

Kotars. The kotars are a dark, and in appearance, a miserable race of people, by far the worst looking on the hills, and are compared to the chucklers, and other low castes, of the plains. They inhabit the same country as the buddagurs, but live in separate hamlets. They are an industrious people, cultivate the soil, work as labourers or coolies, and are the artizans, and musicians of the hills; and being necessary to the toders, on account of their skill in handicraft, kotar villages are to be found throughout the toder country. The kotar villages are larger than any of the others, containing in some instances 40 or 50 huts, sometimes laid out with regularity. The habits, and dress, of these people, are much the same as those of the buddagurs, excepting that they do not wear a turband, or any covering on the head. They are the only race that eat the flesh of

animals, who die a natural death. Like the buddagurs they are tributary to the toders.

Other tribes.

There are some other tribes or castes, as the *mullacombers*, who profess priest-craft, and whose numbers are very limited; and the *irralars*, called also *mudimars*, and *cossiewars*, the proportion of whom has not been estimated. These tribes are thinly scattered on the acclivity, or wooded region of the hills. They cultivate the plantain,and castor oil plant, with some of the smaller grains; and also collect bulbous roots, honey, wax and drugs, and catch wild animals. The irralars hold the most frequent communication with the natives of the plains, and seldom ascendthe higher hills.

Inhabitants generally.

The inhabitants generally, are said to be remarkable for sobriety, and frequently attain a very advanced age.

The prevailing language is a corrupt dialect of the Canarese, but the people are quite illiterate. With the exception of the toders, who are frank and generous in their disposition, the others are represented as being extremely servile, cunning and penurious. They are however, acknowledged to be poor, and destitute of all the ordinary comforts of life.

The age of puberty is stated to be the fourteenth year in males, and the thirteenth in females. The women are usually very prolific, and cease childbearing at about the age of 40 years.

From the effect of hard labour, and of a diet inferior to that of the men, females become prematurely aged in appearance. From the use also of poor and innutritious food, it is supposed that a considerable mortality takes place amongst the children, especially in the earlier years of infancy. They are represented as having in general small limbs,with a prominent belly, and other marks of impaired constitutions. These observations however, do not apply to the toders, whose manners and customs place their women and children in a more favorable situation.

There are no regular priests amongst the inhabitants of the hills, or places of worship. Their religious observances are hence but few, and for these it would seem, that any convenient building can be appropriated. The toders have anchorites, or holy men, who retire to secluded spots, live naked and in solitude; they have certain duties to perform, and enjoy some privileges. The natives occasionally resort to particular hills, set apart for sacred purposes, especially that called Rungatsawmy, in the north east angle, to offer their devotions. In their marriage rites, they appear to follow in most particulars, the customs of some one or other of the tribes in Malabar. Those relating to the sepulture of their dead, are said to be curious. Buffaloes are sometimes driven round and round the deceased, accompanied with the discordant music of the kotars, until the animals become quite exhausted; and till lately they were driven astray in the woods, when they were usually killed and eaten by the kotars. Some accounts however imply, that the toders themselves kill buffaloes on these occasions, and after cutting off the horns, dispose of the carcasses in a clandestine manner, giving rise to the supposition that they are eaten by themselves.

Circular heaps of stones, or cairns, as they are called in Scotland, are met with on the summits of the hills, and in these when dug open, small coins and other articles have been found.

It is a prevalent notion, that the population of the hills, was in former times much greater than at present, though the causes of the reduction seem to be obscure, some referring it to war, others to disease, famine or oppression; their numbers have however increased considerably, since the hills have been resorted to by Europeans.

Dr. Buchanan, in the narrative of his tour through the southern parts of the peninsula, notices the Neilgherry hills, and describes them as "the hills west of Coimbatore," and says, they are inhabited by the *Malasir* (*Muleer?*) the *Buddagers*, the *Erilagaru* (*Irralars?*) and *Toders*. He notices

the prevalent belief amongst the people of the plains, that the inhabitants of the hills were sorcerers and magicians, and that their country was so unhealthy, that the low land people could not live there. The erilagaru women were said to charm tigers, so that they could leave their children to their care, when they moved abroad. Dr. Buchanan ascended the hill, or as he says, "took a long walk to the top," in order to see a *Cambay* or erilagaru village, from which it is certain he did not ascend as high as the table land of Jackanairy. He describes the village, as composed of seven or eight huts, made of bamboo wicker, and plastered with mud or clay, and says that the plough was in use with the toders; but that the Buddagurs only employed the hoe, the reverse of this however seems to be the case.

Climate. "* The prevailing winds on the Neilgherry hills, are those of the north-east and south-west monsoons. The former begins usually in October, and continues until March, when it shifts to the south or east, or is variable until June, when the south-west blows steadily. The north-east wind is usually ushered in with three weeks rain, when it is succeeded by clear cold weather, and frost at night; but in the day time, in the heat of the sun, the thermometer rises to 75° or 80° of Fahrenheit, and falls during the night sometimes to 28°. The coldness of the air, and its excessive dryness, which is often so great as to show no deposition by the hygrometer, withers most of the more delicate plants, such as grasses, willows and garden vegetables; but large trees do not appear to suffer; and some thrive, as the *Rhododendron*, which then puts forth its brilliant carnation flowers."

"During the south-west monsoon, which prevails from the begining of June until the begining of October, much rain falls, and the air is generally saturated with moisture, as indicated by the hygrometer; for, during the intervals of showers, a thick mist usually hangs over the hills, at which time the grass springs forth luxuriantly, and soon clothes them, to

* Extract from Dr. Birch's report, Madras Journal of Literature and Science, No. 20 of 1838.

their summits, with verdure. At the commencement of this monsoon, the wind blows very strong from the south-west, and sometimes amounts to a storm or hurricane, blowing down trees and blighting vegetation, as was the case in June, 1836."

A brief abstract of some of the principal points noticed by Mr. Dalmahoy in a paper on the meteorology of the hills, is here given, and according to that observer, the mean height of the barometer, at

	Inches.		Feet.
Dodabet.......... is	22,242	the altitude being	8,429
Ootacamund..........	23,245	do.	7,197
Kotagherry..........	23,907	do.	6,407
Dimhutty..........	24,111	do.	6,166

The mean height of the barometer at the level of the sea, is 29.830. The mean annual range of the barometer at Kotagherry 0.245 and at Madras 0.360. The difference of atmospheric pressure on the superficies of the human body, between these two places is estimated to be equal to about three tons.

The mean temperature of Ootacamund has been estimated at 56° 4″, but Mr. Dalmahoy is disposed to consider this too low, and infers, as the result of various accurate observations, that the annual mean temperature is as follows, at

Dimhutty..............	64° 1,
Kotagherry...........	63° 4,
Ootacamund..........	60° 8,
Dodabet..............	56° 6,

The annual mean at the level of the sea, in the latitude of the Neilgherries, is estimated to be 82° 6″. and Mr. Goldingham has made it at Madras, 81° 7, at London 49° 5, and at Bangalore, at an elevation of 3000 feet, it has from late observations been ascertained to be 75°.

The ranges of temperature, and quantity of rain, are as follows, at

	Daily.	Monthly.	Annual.	Rain annually.
Ootacamund.....	8°7	17,4	38°	63.880
Madras.........	7°4	16,3	29°	49.275
London.........	13°5	29.3	64°3	22.199
Bangalore.................			19°	34.83

In the latitude of the Neilgherries, the line of perpetual freezing is 14,621 feet above the level of the sea, according to professor Leslie's formula, or about 6000 feet above the summit of Dodabet.

The humidity of the climate of the Neilgherries, or indeed of that of Madras, can only be estimated hypothetically. Some observations were however made by Mr. Dalmahoy at Kotagherry, and from these, and taking the dew point at 6°. below the mean temperature all over the world, he estimates, that supposing complete dampness to be 100°, the relative dampness is, of

London...............	91°.
Madras...............	82°.
Kotagherry...........	76° 5″.

Of the state of the weather on the Neilgherry hills, the following summary is given for one year.

Dry days................	260
Partial rain.............	88
Continued rain..	14
Unrecorded............	3—365.

Calm..................	214
Light Winds..............	130
Strong do.	21—365.

Frost on 28 nights, partial fogs 10 days, and continued fog 1 day. Winds most prevalent, from the north, and west.

In the important point of climate the Neilgherries appear to be at least on a par with the most temperate parts of Europe. The subjoined table exhibits the comparative state

of the principal atmospherical phenomena in Great Britain,* and on the Neilgherries,† for one year.

	Temperature of atmosphere in shade.						Solar radiation.		Moisture No. of days·				Quantity of Rain,
	Mean.	Mean Maximum.	Mean Minimum.	Mean Range.	Maximum.	Minimum.	Maximum.	Mean.	Rain.	Showers.	Cloudy.	Fair.	Inches.
Neilgherries...........	58.6	68.	48.5	16.7	77	38	22.6	15.8	19	81	28	237	44
Great Britain..........	50.3	58.7	41.8	16.9	90.	11.	65.	23.3	14	5	60	160	·23

From the above table it appears that the mean temperature of the year, the mean maximum, and mean minimum bear about the same relation to each other, as in Britain, but are about 10° degrees higher, while the daily range is somewhat less. The highest observed temperature, and the lowest in England, are greatly above and below, respectively, the corresponding points on the Neilgherries, that is to say, the extremes are greater. The power of the sun's rays, another most important point in estimating the effects of exposure, is also considerably less on the Neilgherries than in Great Britain, the maximum and mean being both lower.

To sum up, the climate of the Neilgherries is more temperate than that of Great Britain, its whole range being also within the limits considered by all authorities, most favourable to the European constitution.

The number of days in which rain falls in England, (exclusive of snow) greatly exceeds the corresponding number on the hills, their being only 160 fair days in the one case, and 237 in the other; which is important as showing that although the quantity of rain is nearly double, the opportunities for taking exercise are more frequent, in the proportion of 24 to 16, or 1-3d.

There is also a greater equability of temperature, the daily range being less than in Great Britain, and the extremes

* British Medical Almanacs for 1836 and 1838, and Daniel's Meteorological Essays.
† Baikies observations on the Neilgherries.

much lower, viz. 77° and 38°, on the hills, instead of 90° and 11° in England.

These hills from their geographical position, come fully within the influence of the south-west monsoon, while from their elevation, they also feel the north-east. In January, February and March, a north-east wind prevails, during which the sky is clear and serene, the air is cold and bracing, and the whole climate at that period is felt to be highly delightful, and invigorating. In April and May, the weather is showery, but the air continues temperate, and notwithstanding the showers, it is on the whole dry. The winds are chiefly from the north. In June the south-west monsoon sets in; on the hills, however, the direction of the wind is chiefly westerly, and even to the north of west. The climate then becomes and contiuues rainy, till well on in December, and the air during that period is felt to be humid. The rains are sometimes heavy and continued, but not in a degree equal to what is observed on the coast of Malabar. July and August, are perhaps the most rainy months, but September, October and November, are at times also very rainy, and when there are no rains, there are occasional fogs, with cloudy weather. In October the wind gets round to the north and east, and towards the end of December, the dry cold weather is established.

Thus, three months are dry, clear and cold; two months showery, but not damp; and seven months rainy, foggy and cloudy, with fair intervals. The changes in the weather, at least the formation of clouds, whether dry or rainy, are often extremely sudden, and the disappearance of the clouds just as sudden. When clear, the sky is of a deep azure, and distant objects appear remarkably distinct and bright. Iron is slow in acquiring rust, even in rainy weather, and there is not much thunder and lightning

These changes of the seasons are not unattended with derangements of health, which are however generally unimportant. The change in June to a damp, rainy, and variable climate, causes catarrhs and sore throats amongst the

Europeans; but they are slight, unattended with fever, and generally pass off in a few days, even without the aid of medicine. Similar affections take place when the cold sets in and they are then equally slight. Europeans do not suffer much from rheumatism, and Mr. Haines who had considerable experience of the climate, did not know an instance of remittent fever happening in a European, which could be said to have originated on the hills. The native inhabitants also suffer at these two seasons, from slight intermittent fevers, and rheumatic pains in the joints. On the whole the rainy months, after the rain has been once established, appear to be the most healthy. Bowel complaint is not a frequent disease, amongst the natives of the hills, but it occurs chiefly during the rains.

Effects of climate on the health of the native inhabitants.

Mr. Haines examined ten buddagur villages containing a population of 818 souls, and found only eleven sick amongst them; and only one instance of broken health from intermittent fever. Of the eleven sick, one man and two children had fever, all the others were either slight cases of rheumatism, or local complaints. Cutaneous diseases are, as might be expected from the poorness of their circumstances, and the filthiness of their habits, very frequent. No case of cholera has ever been observed on the hills, The epidemic fever which ravaged the low countries in 1809, 10 and 1811, did not in the slightest degree affect the people of the hills. Small pox, a disease from the influence of which no climate or country is perhaps exempt, is occasionally seen, but a gentleman who has resided for a long time on the hills, affirms, that he has never observed a pock marked person amongst the natives; and has known two individuals who brought the disease with them, go through it, without its spreading to others. The health of the inhabitants on the lower parts of the hills, is not particularly mentioned; but a party of pioneers and coolies, natives of the low country, who enjoyed almost uninterrupted good health for a year or two, while employed on the table land; when called to work lower down, on the acclivity of the hill, suffered from remittent fever, of the worst description and many cases ended fatally.

Native servants, who accompany Europeans to the hills, if not well clothed and housed, suffer from the cold of the climate, and are very liable to attacks of fever, and to bowel complaints; Mr. Stoddart mentions also, that he saw several cases of fever amongst them which often lapsed into a fatal form of dysentery.

Mr. Orton observes, that sudden transitions of temperature, and exposure, probably bring into action the latent cause of fever, imbibed in other situations, and says, "the attacks of the disease amongst the followers almost entirely ceased to recur, after they had been sometime on the hills; whilst at places where fever is endemic, the reverse is the case." He had observed also, cases of fever amongst both the buddagurs and kotars, and in one village consisting of 30 families, six people died of it, in five months. In the todar village of Ootacamund, on the other hand, no death had happened for three years. A number of medical men have visited the Neilgherries from time to time, and several have resided there for very considerable periods; and none of them have advanced any observations more unfavourable to the climate, than those just stated, while all concur in opinion that they are free from any endemic, or epidemic sources of disease; and in attributing such complaints as do occur amongst the inhabitants, to poverty, and its attendant privations.

The plateau or table land, is elevated above the reach of the malaria of the wooded tracts, which encircle the hills, and as before mentioned, appears to be free from any sources of miasm.

Effects of the climate on European invalids.

There can be no doubt but the Neilgherry climate is highly restorative in debilitated European subjects, suffering from the effect of tropical heat, and disease consequent on a long residence in India. A sudden feeling of increased strength is experienced on first ascending the hills, with an exhilaration of spirits,—sometimes amounting to a degree of excitement which prevents sleep—and a general vigour of the system, which invalids are too

apt to mistake, for a renovation that is to be permanent, and they therefore indulge too freely in the pleasures of the table, and are apt to expose themselves imprudently to the climate. Those who have suffered much from fever also, frequently experience a recurrence of it, on ascending the hills, and it is apt to return at intervals; but it is unequivocally stated, that the feverish habit subsides, from a lengthened residence on them. There is seldom any sweating stage in the paroxysms of fever, from which such patients suffer, but they frequently experience a distressing sense of vertigo. The rarefaction of the air is stated not to be so hurtful to the lungs, as it is found to be in other elevated regions. Bilious diarrhœa however, and a copious secretion of urine, occur in persons newly arrived. On the whole, from past experience of the effects of the Neilgherry climate, it has been ascertained, that where a low temperature is admitted, on general principles to be favourable, it affords a good prospect of being beneficial in promoting recovery; and the climate appears also, to be favourable to children.

With respect to invalids, affected with organic disease of any of the important organs, the effect of climate, it must be admitted that a sea voyage, and the climate of Europe, offer a better prospect of recovery, than a residence on the hills. The same observation applies also to venereal disease affecting the bones, and to obstinate and extensive ulceration. The voyage of itself, is generally of the greatest benefit, in cases of organic disease, and the length of time usually required for the re-establishment of health, renders a resort to Europe preferable, in instances of that nature. Nevertheless, when circumstances do not admit of the patient returning to Europe, the Neilgherrries may be resorted to with a very encouraging prospect of success, provided that the invalid remains on them a sufficient length of time; for it has been too common to expect that a six months, or even a three months stay there, is sufficient to effect, what an absence of from two to three years, is generally considered necessary to bring about, in Europe.

It is important to keep in view a remark of medical practitioners, that mercury exerts its specific action on the system much more readily in the colder climate of the hills, than in the plains of India, and it is also stated, that half the quantity of that mineral is found sufficient to produce its specific effect on the system.

It is particularly necessary to caution invalids who visit the Neilgherry hills, and indeed all strangers, against exposure to the sun's rays,as well as to excessive cold; for although the solar heat may not be oppressive, but on the contrary agreeable, it is still sufficiently powerful to blister the face and hands, and to produce much constitutional irritation. Cold likewise, and especially heavy dews, produce congestions of the internal organs, and should be carefully guarded against, and flannel clothing should invariably be worn next the skin.

Advantages of the climate for Europeans.

It follows from the preceding remarks, that the chief advantage of the Neilgherry hills, depends upon the moderate and equable temperature of the climate, which of itself is sufficient to cure or effect a decided improvement in a large proportion of intertropical complaints. The change of scenery, and relief from oppressive heat likewise, exert for a time, a favorable moral influence, but this it must be admitted is not permanent, and in no degree equal to that which a return home so generally produces. In the instances of officers therefore, of the civil and military services, a protracted residence on the Neilgherries, may sometimes fail in its object, but in the European soldier, who is usually less under the influence of moral impressions, the climate will in general be found sufficient to restore health in cases requiring chiefly a reduced atmospheric temperature for their cure.

A review, shewing the effects of the climate of the hills in the cases of European soldiers sent to the *Sanatarium,* between the years 1830 and 1832, and also in those of officers who resorted thither for the benefit of their health, during the seven years ending 1832, is given in the following extract from a report by the Medical Board to Government, at the close of that year.

" The convalescent depot at Ootacmund was announced to be ready for the reception of European invalids, in general orders by Government dated the 8th January 1830; and the first detachment of convalescents arrived at the station in May following. The accompanying tabular statements, Nos. 1 and 2, exhibit separately the number of European soldiers, of Her Majesty's, and of the Honorable Company's services, who have been admitted into the depot from its establishment, to the end of October 1832; the diseases on account of which a trial of the Neilgherry climate was recommended; and the degree of success with which the measure has been attended. The general results afforded by these statements, will be at once seen in the following abstract."

	Admitted.			Total Admitted.	Discharged.				Died.	Remaining 1st November, 1832.
	In 1830.	In 1831.	In 1832.		Cured.	Improved but not cured.	As incurable on the hills.	Total.		
Of Her Majesty's Service...	35	30	10	75	42	8	3	53	6	16
Of the Hon. Compy's service.	18	30	15	63	33	3	11	47	4	12
Total..	53	60	25	138	75	11	14	100	10	28

" It thus appears that of 138 men, of both services, received into the depot, 75 have been restored to good health, and were sent to rejoin their respective corps; 11 though not cured have been so much benefited as to be considered fit to return to duty; 14 have been discharged from the depot as incurable in the climate of the Neilgherries, 10 have died; and 28, (the majority of whom had but recently joined,) continued under treatment on the 1st of November, 1832. The average period of detention in the depot, of those reported cured or improved, was 10 months and 4 days; and of those discharged as incurable, 12 months and 11 days."

No. 1.

1830, 31, *and* 32.

Convalescent Depot on the Neilgherry Hills.

Return of European soldiers of H. M.'s service.

	Remained 1st Jan. 1830.	Admitted in 1830.	Do. in 1831.	Do. in 1832.	Total.	Discharged.				Died.	Remaining 1st Nov. 1832.
						Cured.	Improved, but not cured.	As incurable on the Neilgherries.	Total.		
Atrophy	0	1	0	0	1	1	0	0	1	0	0
Catarrh	0	0	0	1	1	0	0	0	0	0	1
Diarrhœa	0	3	3	3	9	5	0	1	6	0	3
Dssentery	0	10	8	4	22	12	3	1	16	1	5
Epilepsy	0	1	0	0	1	1	0	0	1	0	0
Fever continued	0	3	0	0	3	1	2	0	3	0	0
,, Intermittent	0	3	0	0	3	3	0	0	3	0	0
,, Remittent	0	0	5	0	5	3	0	0	3	0	2
Headache	0	3	1	0	4	2	1	0	3	0	1
Hepatic disease	0	6	4	1	11	6	1	0	7	1	3
Indigestion	0	2	0	0	2	1	0	0	1	1	0
Inflammation, abdominal	0	0	2	0	2	1	0	0	1	1	0
,, of Spleen	0	0	1	0	1	0	0	0	0	1	0
Ophthalmy	0	1	0	0	1	1	0	0	1	0	0
Palpitation of heart	0	1	0	0	1	1	0	0	1	0	0
Palsy	0	0	2	0	2	0	1	0	1	1	0
Piles	0	0	2	1	3	3	0	0	3	0	0
Rheumatism	0	0	1	0	1	0	0	0	0	0	1
Scurvy	0	1	1	0	2	1	0	1	2	0	0
Total	0	35	30	10	75	42	8	3	53	6	16

No. 2.
1830, 31, *and* 32.
Convalescent Depot on the Neilgherry Hills.
Return of European Soldiers of the H. C. Service.

	Remained 1st Jany. 1840.	Admitted in 1830.	Do. in 1831.	Do. in 1832.	Total.	Discharged.				Died.	Remaining 1st Nov. 1832.
						Cured.	Improved, but not cured.	As incurable on the Neilgherries.	Total.		
Abscess lumbar................	0	0	1	0	1	1	0	0	1	0	0
Atrophy.........................	0	0	4	1	5	4	0	1	5	0	0
Diarrhœa.........................	0	1	2	0	3	2	0	1	3	0	0
Dropsy............................	0	2	0	1	3	1	0	0	1	1	1
Dysentery........................	0	2	4	2	8	3	0	3	6	0	2
Fever continued.................	0	0	2	0	2	2	0	0	2	0	0
,, intermittent.............	0	1	0	0	1	1	0	0	1	0	0
Headache......................	0	1	0	0	1	1	0	0	1	0	0
Hepatic disease.................	0	6	10	5	21	11	2	5	18	1	2
Indigestion.......................	0	0	0	2	2	0	0	0	0	0	2
Inflammation abdominal........	0	0	0	1	1	0	0	0	0	0	1
,, cephalic......... ..	0	0	1	0	1	0	0	0	0	1	0
Inflammation of bladder.........	0	0	0	1	1	0	0	0	0	0	1
Injury of Spine..................	0	1	0	0	1	1	0	0	1	0	0
Palpitation of heart............	0	1	0	0	1	1	0	0	1	0	0
Palsy............................	0	1	0	0	1	0	1	0	1	0	0
Rheumatism	0	2	6	0	8	5	0	1	6	1	1
Sarcomatous....................	0	0	0	1	1	0	0	0	0	0	1
Wounds and accidents..........	0	0	0	1	1	0	0	0	0	0	1
Total........	0	18	30	15	63	33	3	11	47	4	12

"As the benefit to be derived from the climate may be supposed to be materially influenced by the age, and duration of residence in India, of the persons resorting to it, it appears desirable to introduce in this place statements affording information on these points, in regard to the European soldiers who have been received into the depot."

Statement showing the ages of the European convalescents sent to the Depot on the Neilgherries, and the results of their cases.

Ages.	Number received into the Depot.	Discharged. Cured.	Discharged. Improved but not cured.	Discharged. As incurable on the hills.	Discharged. Total.	Died.	Remaining 1st November 1832.
His Majesty's troops.......							
Not above 20 years.........	5	4	0	0	4	0	1
From 20 to 25 years.......	35	20	4	2	26	2	7
" 25 to 30 "	19	11	2	1	14	0	5
" 30 to 35 "	12	6	1	0	7	2	3
Above 15 years....... ...	4	1	1	0	2	2	0
Total..	75	42	8	3	53	6	16
Honorable Compy's troops..							
Not above 20 years.........	3	3	0	0	3	0	0
From 20 to 25 years.......	25	12	1	7	20	1	4
" 25 to 30 "	28	15	2	4	21	2	5
" 30 to 35 "	2	1	0	0	1	0	1
Above 35 years...........	5	2	0	0	2	1	2
Total..	63	33	3	11	47	4	12
General Total .	138	75	11	14	100	10	28

Statement showing the period of residence in India, of the European convalescents sent to the Depot on the Neilgherries, and the results of their cases.

Period of residence in India.	Number received into the Depot.	Discharged. Cured.	Improved but not cured.	As incurable on the hills.	Total.	Died.	Remaining 1st November 1832.
H. Majesty's troops.......							
Under 2 years	8	4	0	1	5	0	3
From 2 to 5 years........	36	22	4	0	26	2	8
„ 5 to 10 „	18	8	3	2	13	1	4
„ 10 to 15 „	7	2	1	0	3	3	1
Above 15 „	0	0	0	0	0	0	0
Unknown................	6	6	0	0	6	0	0
Total..	75	42	8	3	53	6	16
Honorable Compy's troops..							
Under 2 years............	16	9	0	6	15	1	0
From 2 to 5 years........	19	8	1	5	14	1	4
„ 5 to 10 „	14	8	2	0	10	1	3
„ 10 to 15 „	6	2	0	0	2	0	4
Above 15 „	2	1	0	0	1	0	1
Unknown	6	5	0	0	5	1	0
Total..	63	33	3	11	47	4	12
General Total..	138	75	11	14	100	10	28

"It will be observed, from these statements, that the majority of the convalescents were young men, not long resident in India; and the accompanying copy of the circular instructions, by which medical officers were required to be guided in selecting patients for the hills, will show that it has been

an object of particular solicitude to avoid sending thither any severe cases of chronic disease*."

Having thus stated the general condition of the soldiers sent to the depôt, and having shown the extent of the immediate benefit derived by them, the next subject of inquiry is the permanence of that benefit, in the case of men of the Honorable Company's service, respecting whom alone the Medical Board office possesses the requisite information."

On the selection of patients for transfer to the Hills.

*"The Medical Board deem it proper to point out for the guidance of Medical Officers, the cases which are considered likely to derive full benefit from the climate of the Neilgherries, and those, in which either a voyage to sea or a return to Europe, hold out a better prospect of restoration to health.

1st.—"Convalescents from fever, dysentery, and acute hepatitis, who are free from structural disease, but so debilitated as to render it improbable, that they would recover perfectly, under ordinary circumstances in India. These persons should be somewhat advanced in convalescence, and should require but little medical treatment. In cases of private soldiers, the men should in general be able to march, without much assistance in the way of sick carriage.

2dly.—"Persons debilitated from protracted residence in India, whether unaffected with any marked disease, or suffering from dyspepsia, irregular action of the bowels, or other spmptoms of functional derangement of the viscera.

3dly.—"Young men of weakly constitutions, having no actual disease, but unfit for military duty from debility and exhaustion."

A voyage to sea, in preference to a resort to the Neilgherries, is to be recommended in the following cases:

1st.—"To persons who have been long subject to returns of intermittent, or who have repeatedly suffered from attacks of remittent fever.

2dly.—"To those who have either experienced repeated attacks of acute hepatitis, or have long suffered from chronic hepatic or dysenteric affections.

3dly.—"To those labouring under rheumatism, syphilitic, or pseudo-syphilitic affections."

"In the more severe cases of the three last classes, a return to Europe will generally be requisite. In less aggravated cases, a voyage of considerable duration must be considered essential; and leave, either to sea, to the Cape of Good Hope, or places to the eastward of it, or to the Cape and eventually to Europe, according to circumstances, should be recommended."

"The season of the year, and station on the Neilgherries to which patients are recommended to proceed, should be carefully considered; and the precautions, in regard to clothing and exposure, necessary for obviating the bad effects, which might arise from sudden reduction of temperature, on ascending the hills, should be particularly inculcated. Patients who are much enfeebled, and consequently most liable to suffer from such a transition, should, in the first place, proceed to the lower, and more temperate stations either of Kotagherry or the Kotah valley, especially during the monsoon months of June, July and August." Dated, December, 1830.

"The number of men of this service who left the depôt cured was 33, and improved 3. Of these 36, the following is the subsequent history:

25 have rejoined their respective corps,
9 are on route to rejoin,
1 died 25 days after leaving the depôt, and
1 was "transferred to Kaitee."
—
36
—

Of the 25 men who thus rejoined,
16 were in good heath,
4 were in improved, but not good health, and
5 were in bad health, and discharged.
—
25
—

Of these 25 men,
16 have derived permanent benefit,
3 have not been permanently benefited,
1 has but very lately rejoined in improved, but not good health, and
5 have been discharged from the service, invalided or pensioned.
—
25
—

"The 11 men reported as incurable, were only discharged from the depôt, in the course of September and October last, and their cases have not been further disposed of. The oldest of them was not quite 30 years of age, and those longest in the service, had been under four years in India, when sent to the depôt."

Their average age was.......... ....24¼ years.
Average duration of residence in India.. 2 years nearly.
Do. Do. on the hills.. .... 1 year and 2 months."

"It is sufficiently obvious, therefore, from the preceding statements, that the benefit to the public service derived

from the convalscent depôt, has not been of extensive importance; but it must be admitted, that the establishment has hitherto laboured under great disadvantages. Placed in an elevated and unsheltered situation, without a surrouning wall, the building was fully exposed to the south-west monsoon, while its vicinity to the bazār afforded ready access to spirituous liquors, of which it was found impossible, with the means of restraint at command, to prevent the patients from frequently availing themselves; and its extent was too limited to admit of the desirable measure, of completly separating the convalescent and recovered men, from those under hospital treatment. A much more extensive and eligible building having, however, been recently appropriated for the purposes of a convalescent depôt, there is every reason to expect that the more important disadvantages, experienced, will now be removed; and that a more satisfactory trial, than has hitherto been possible, will thus be afforded to the climate."

"But, although the benefit hitherto derived from the convalescent depôt cannot, under these circumstances, be considered as indicating, in a perfectly satisfactory manner, the probable extent of the utility of a matured and well regulated establishment of that nature, we think it proper, on the present occasion to state, that, from the information before us, we see no grounds for anticipating, from such an establishment, any results of much importance in a financial or political point of view, if indeed its maintenance should not be attended with positive loss. When the distance of the greater number of stations occupied by European troops from the Neilgherry hills is considered, it will be obvious, that a resort to them cannot be available for the cure of acute diseases; and the medical reports, while they generally represent the climate in the most favourable point of view, tend to show that it is not well adapted for the cure of chronic diseases, attributable to a tropical climate, which chiefly lead to inefficiency, and consequently to discharge from the service, or transfer to the invalid or pension establishments."

No. 3.

Statement showing the diseases on account of which Men of H. Majesty's Regiments, serving under the Presidency of Fort St. George, were invalided during the years 1826, 1827, 1828, *and* 1829.

	Principal diseases attributable to a tropical climate, and likely to be cured, or materially benefited, by a return to Europe.								Chronic diseases not likely to be cured in any climate.															
	Fever.	Hepatitis.	Rheumatism.	Dysentery.	Diarrhœa.	Dropsy.	Headache.	Total.	Pulmonic affections.	Palsy.	Epilepsy.	Insanity.	Scrophula.	Deafness.	Contraction.	Hernia.	Stricture.	Wounds & accidents.	Ulcers.	Affections of the eye.	Do. of the skin.	Other complaints.	Total.	General Total.
1826.	6	31	23	13	29	4	2	108	4	5	3	2	3	1	0	8	0	4	5	17	1	27	80	188
1827.	7	36	63	21	9	8	4	148	9	6	2	2	6	4	4	5	1	8	7	15	0	8	77	225
1828.	13	44	43	18	4	4	2	128	13	2	4	2	2	4	2	7	1	10	6	2	0	12	67	195
1829.	6	59	23	14	1	0	1	104	11	2	0	4	0	0	2	4	2	2	1	9	2	23	62	166
Total.......	32	170	152	66	43	16	9	488	37	15	9	10	11	9	8	24	4	24	19	43	3	70	286	774
Annual Average....	8	42½	38	16½	10¾	4	2¼	122																193½

" On examination of the returns of men, of H. Majesty's regiments serving under this presidency, invalided from 1826 to 1829 inclusively, the four years preceding the establishment of the depôt, it appears that the average number annually invalided, on account of diseases attributable to a tropical climate, and likely to be cured, or materially benefited, by a return to Europe, was 122; the diseases affording this aggregate, being in the following proportions."

Fever..........	8	Of these the principal diseases were.	
Hepatitis.......	$42\frac{1}{2}$		
Rheumatism....	38	Hepatitis.......	$42\frac{1}{2}$
Dysentery.......	$16\frac{3}{4}$	Rheumatism....	38
Diarrhæa.......	$10\frac{1}{2}$	Bowel complains.	$27\frac{1}{4}$
Dropsy.........	4		
Headache......	$2\frac{1}{4}$		$107\frac{1}{4}$,
Total...	122	or nearly 9-10ths of the whole	

" It thus appears that hepatitis, rheumatism and bowel complaints, all of long duration, constitute nearly 9-10ths of the whole number of cases, in which a change of climate affords a prospect of recovery. And further it appears from the reports* of the medical officers on the spot, that the climate of the Neilgherries, is not considered favourable for recovery, from these diseases; and it consequently follows, that but a small proportion of cases of confirmed tropical disease, remain, in which it can be expected to effect a cure. As already noticed, it promises to be chiefly useful in cases of tedious convalescence from acute diseases; and in persons, who without marked disease, become prematurely debilitated by service in India, it may often effect such an improvement, as will enable them to continue at their duty for some time longer."

* Dr, Stephenson, the medical officer in charge of the Depôt, in his half yearly report dated 1st July, 1832, thus expresses his opinion.

" Hepatic disease." " No chronic case of hepatitis should in my opinion, ever be sent to the station."

" Rheumatism." " This is another disease to which the climate of the Hills is not well adapted, being too cold and windy for such affections."

" Diarrhœa and Dysentery." " I must observe that I do not consider the climate well adapted to these diseases, especially in the chronic form, or when combined with hepatic affections, as they are constantly subject to relapse from congestion, by exposure to the cold atmosphere of the hills."

" Having now submitted such information as appeared requisite, respecting European invalid soldiers, we proceed to the consideration of the results in the cases of the officers of government, civil and military, who have visited the Neilgherries on account of their health. As the number of these visitors, prior to the commencement of 1826, was not considerable, and as they did not in many instances, apply to the medical officer stationed on the hills, no regular account of them can be given before that period. The following abstract, exhibits the number who have annually resorted to the hills, from the begining of 1826, to the 1st October last, and the results of the cases."

Abstract return of Sick Officers, Civil and Military, treated on the Neilgherries from 1*st January* 1826, *to* 30*th September* 1832.

Years.	Remained 1st January 1826.	Admitted.	Total.	Discharged.						Died.	Remaining 1st October 1832.
				Cured.	Improved but not cured.	No better.	By transfer to another surgn.	On sick certificate to Europe	Total.		
1826.	7	9	16	6	4	1	0	0	11	0	0
1827.	0	29	29	9	5	4	0	2	20	0	0
1828.	0	35	35	8	16	0	0	0	24	1	0
1829.	0	43	43	31	0	0	12	2	45	3	0
1830.	0	42	42	24	6	0	4	7	41	2	0
1831.	0	40	40	22	10	0	0	9	41	3	0
1832.	0	33	33	19	4	1	0	2	26	2	19
Total..	7	231	238	119	45	6	16	22	208	11	19
Officers of the Bombay Establishment.											
1830.	0	14	14	0	0	0	0	0	0	0	0
1831.	0	13	13	7	3	0	0	3	13	1	0
1832.	0	24	24	10	6	0	0	0	16	0	21
Total..	7	51	51	17	9	0	0	3	29	1	21
General Total..	7	282	289	136	54	6	16	25	237	12	40

" The officers of the Bombay presidency, have for some time been placed under the care of a medical officer of that establishment, but as a return of them has been furnished, we have thought it proper to introduce it, in order to render

the information as complete as possible. We have no accounts respecting Europeans not in the public service, who may have visited the Neilgherries, but have reason to believe, that their number cannot have been considerable.

"From the preceding abstract it appears, that during the period of six years and nine months which it embraces, 289 officers resorted to the Neilgherries on account of their health. Of these

136 are reported to have been cured,
54 improved but not cured,
6 derived no benefit,
16 were transferred to the care of another medical officer,
25 proceeded on sick certificate to Europe,
12 died on the hills, and
40 remained under treatment on the 1st of October last.

Total. . .289

"The average duration of residence on the hills, of those reported cured was 7 months, of those improved but not cured, $7\frac{1}{2}$ months, and of those who proceeded from thence to Europe on sick certificate, $6\frac{2}{3}$ months."

With respect to the permanence of the benefit, there are no means for affording such precise information in the case of officers, as in that of European soldiers: but the following statements contain the whole information on this head of inquiry, respecting the officers treated by surgeons of this establishment, which could be collected from all available sources; of the 119, exhibited in the first part of the preceding abstract as having been cured,

13 proceeded to Europe within one year,
4 do. do. within the second year.
8 do. do. within the third year.

Total......25

" Of the 45 reported as relieved or improved.

	13	proceeded to Europe within one year,	
	2	do.	do. within the second year,
	2	do.	do. within the third year,
Total	17		

" The 42 who thus appear to have proceeded to Europe being deducted from 164, the whole number who derived benefit from the climate, 122 remain to be accounted for. Of these the following is the subsequent history."

	75	have derived permanent benefit,
	23	have not been permanently benefited,
	2	died within a few months after leaving the hills,
	22	being officers of other presidencies, there are no means of tracing their subsequent history.
Total	122	

Medical Board Office,
24th December 1832.

Eighteen months after the date of the preceding report, the Government being satisfied that the benefits of the establishment for sick soldiers, were in no way commensurate with the expense attending it, and that it could be discontinued without any inconvenience of consequence, resolved that the Depôt should be abolished in July 1844. It was therefore in accordance with that resolution broken up at that period; but the hills have still continued to be resorted to, and in an increasing degree, by sick officers and their families; and the following tables, Nos. 4, 5, and 6, exhibit the number of admissions from each disease,and the results for a period of 18 years amongst the officers, and for a period of seven years, amongst the ladies and children.

Table No. 7, exhibits the sickness and mortality amongst a small body of prisoners (convicts); from 1834 to 1841 inclusive.

No. 4.—Table exhibiting the number of admissions &c. amongst the European Officers, from 1826 *to* 1843 *inclusive.*

CLASSES.	DISEASES.	Admitted.	Discharged. Cured.	Discharged. Relieved.	Discharged. Transferred.	Discharged. To Europe.	Died.	Remaining.
Fevers......	Febris ephemera	5	4	0	0	1	0	0
	,, intermit. quot.	97	60	15	6	6	1	9
	,, tertiana	6	5	1	0	0	0	0
	,, remittens.....	30	18	3	3	2	1	3
	,, com. continua	10	7	1	0	0	0	2
Diseases of the Abdominal Viscera......	Diarrhœa.......	13	7	2	2	0	2	0
	Dysenteria.....	30	17	1	4	3	4	1
	Colica..........	2	2	0	0	0	0	0
	Obstipatio......	6	0	0	0	2	1	3
	Gastritis........	2	0	0	1	1	0	0
	Enteritis........	3	2	0	0	0	1	0
	Dyspepsia......	251	160	49	5	18	3	16
	Hemorrhois....	5	2	3	0	0	0	0
	Splenitis........	1	0	0	0	1	0	0
	Hepatitis.......	126	68	27	4	11	7	6
Diseases of the Lungs	Cynanche.......	2	1	0	0	0	0	1
	Catarrhus......	6	4	1	0	0	1	0
	Hœmoptysis....	1	1	0	0	0	0	0
	Phthisis pulmonalis..........	1	0	0	0	1	0	0
	Pneumonia.....	2	1	0	0	0	1	0
	Dyspnœa.......	1	1	0	0	0	0	0
	Morbus cordis..	3	1	1	0	0	0	1
Diseases of the Brain.	Apoplexia......	3	1	0	0	0	2	0
	Epilepsia.......	3	1	1	0	0	0	1
	Paralysis.......	12	4	4	2	1	1	0
	Hemiplegia	2	1	1	0	0	0	0
	Concussio cerebri..........	3	1	1	0	0	1	0
	Mania..........	1	1	0	0	0	0	0
	Delirium tremens.........	2	1	0	0	0	1	0
	Hypochondriasis	3	1	1	1	0	0	0
	Melancholia....	1	0	1	0	0	0	0
	Cephalalgia	21	16	0	1	2	0	2
	Neuralgia.......	1	0	0	0	1	0	0
	Varicella.......	2	2	0	0	0	0	0
Dropsies....	Anasarca........	3	0	1	0	0	2	0
	Ascites.........	1	1	0	0	0	0	0
Rheumatic affections.	Rheumatismus.	27	17	5	0	5	0	0
	Arthritis.......	1	0	0	0	1	0	0
	Podagra........	2	0	0	1	0	0	1
Venereal affections..	Syphilis primitiva..........	8	5	1	0	2	1	0
	,, consecutiva	11	3	4	0	1	0	2
	Dysuria.........	1	0	0	1	0	0	0
	Gonorrhœa.....	6	6	0	0	0	0	0
	Hernia humoralis...........	6	3	0	1	1	0	1
	Strictura urethræ.........	7	6	1	0	0	0	0
	Diabetes.......	1	1	0	0	0	0	0
	Ischuria........	1	0	0	0	0	0	1
	Debilitas.......	16	13	2	0	1	0	0
Specific diseases.....	Lepra (vulgaris)	1	1	0	0.	0	0	0
	Atrophia.......	7	2	0	0	3	0	2
	Scrophula......	3	2	0	0	0	0	1
	Scorbutus......	1	1	0	1	0	0	0
	Cachexia.......	6	4	0	1	0	0	1
	Morbi Oculorum	12	5	4	0	0	0	2
	,, cutis.......	7	3	2	0	2	0	0
	Phlogosis.......	12	7	4	0	0	0	1
	Ulcers..........	17	9	4	0	2	1	1
	Bubo simplex..	8	5	2	0	0	0	1
	Hepatic derangments.........	4	2	2	0	0	0	0
	Other diseases..	32	23	3	1	2	1	2
	Total.....	858	509	148	35	73	32	61

No. 5.—*Table exhibiting the number of admissions, &c. amongst European Ladies, from* 1837 *to* 1843 *inclusive.*

CLASSES.	DISEASES.	Admitted.	Discharged. Cured.	Relieved.	Transferred.	To Europe.	Died.	Remaining.
Fevers......	Febris ephemera	5	4	0	0	0	0	1
	,, iutermit quot.	12	11	0	0	1	0	0
	,, remittens.....	2	1	0	0	0	1	0
	,, com: continua	1	1	0	0	0	0	0
Diseases of the abdominal viscera......	Diarrhæa.......	36	33	0	0	0	0	3
	Dysenteria.....	8	7	0	0	0	1	0
	Obstipatio......	166	140	1	0	0	0	25
	Dyspepsia......	97	79	0	0	0	0	18
	Gastritis........	1	1	0	0	0	0	0
	Splenitis.......	2	1	0	0	1	0	0
	Icterus.........	3	2	0	0	0	0	1
	Hepatitis.......	27	18	5	0	1	1	2
Diseases of the Lungs	Cynanche......	4	4	0	0	0	0	0
	Influenza.......	12	10	0	0	0	2	0
	Catarrhus......	26	25	0	0	0	0	1
	Pneumonia.....	1	1	0	0	0	0	0
	Hydrothorax...	1	0	0	0	0	1	0
Diseases of the Brain.	Cephalalgia....	6	6	0	0	0	0	0
	Neuralgia......	19	16	1	1	0	0	1
	Hysteria........	22	20	1	0	0	0	1
	Epilepsia.......	1	0	1	0	0	0	0
	Paralysis.......	2	1	0	0	1	0	0
	Mania..........	2	1	1	0	0	0	0
	Variola.........	1	1	0	0	0	0	0
	Ascites.........	1	1	0	0	0	0	0
Rheumatic affections.	Rheumatismus..	4	4	0	0	0	0	0
	Odontalgia......	1	1	0	0	0	0	0
Specific diseases.......	Leucorrhoea....	6	5	1	0	0	0	0
	Amenorrhœa ..	32	29	0	0	0	0	3
	Menorrhagia. ..	2	2	0	0	0	0	0
	Parturito......	56	54	0	0	0	2	0
	Abortus........	2	2	0	0	0	0	0
	Polypus in utero	2	2	0	0	0	0	0
	Abscessus......	4	4	0	0	0	0	0
	Debilitas...... ..	71	69	0	2	0	0	0
	Vermes.........	1	1	0	0	0	0	0
	Noli me tangere.	1	1	0	0	0	0	0
	Morbi oculorum	1	0	0	0	1	0	0
	Other diseases..	150	137	9	0	1	3	0
	Total ...	791	695	20	3	6	11	56

No. 6.—*Table exhibiting the number of admissions, &c. amongst European Children, from* 1837 *to* 1843 *inclusive.*

CLASSES.	DISEASES.	Admitted.	Discharged.				Died.	Remaining.
			Cured.	Relieved.	Transferred.	To Europe.		
Fevers......	Febris ephemera	17	16	0	0	0	0	1
	,, intermit quot.	9	9	0	0	0	0	0
	,, com: cont....	4	4	0	0	0	0	0
Diseases of the abdominal viscera......	Diarrhœa...... ..	195	186	2	1	0	2	4
	Dysenteria......	37	31	0	0	0	4	2
	Obstipatio......	155	146	0	0	0	0	9
	Dyspepsia...... ..	34	28	0	0	0	0	6
	Hepatitis........	9	8	0	0	0	1	0
	Defective or depraved hepatic.. secretion........	49	49	0	0	0	0	0
	Marasmus........	13	10	3	0	0	0	0
Diseases of the lungs.	Cynanche...... ..	9	7	0	0	0	2	0
	Laryngismus stridulus......	2	2	0	0	0	0	0
	Catarrhus........	22	22	0	0	0	0	0
	Pertussis........	3	2	0	0	0	0	1
	Phthisis pulmonalis..........	1	0	0	1	0	0	0
	Influenza........	9	9	0	0	0	0	0
Diseases of the brain.	Convulsio...... ..	3	1	0	0	0	2	0
	Epilepsia........	1	0	0	0	1	0	0
	Hydrocephalus .	2	1	0	0	0	1	0
Eruptive fevers......	Varicella.........	2	2	0	0	0	0	0
	Rubeola.........	11	11	0	0	0	0	0
	Dentitio.........	176	129	26	1	0	6	14
	Vermes..........	14	14	0	0	0	0	0
	Tinea......... ..	1	1	0	0	0	0	0
	Debilitas........	5	5	0	0	0	0	0
	Atrophia........	7	4	0	0	0	1	2
	Scorbutus	6	5	1	0	0	0	0
	Morbi oculorum	3	3	0	0	0	0	0
	,, cutis.......	1	1	0	0	0	0	0
	Other diseases..	5	4	0	0	0	0	1
	Total..	805	710	32	3	1	19	40

JAIL OF OOTACAMUND.

No. 7.—*Table exhibiting the Number of Admissions and Deaths, of the convicts, from each Class of Disease, for 8 years, from* 1834 *to* 1841 *inclusive.*

CLASSES.	DISEASES.	From 1834 to 1841. inclusive. Aggregate strength 840. 1st Half. Ad.	1st Half. Dd.	2d. Half. Ad.	2d. Half. Dd.	Admissions and deaths from each class of disease. 1st Half. Ad.	1st Half. Dd.	2d. Half. Ad.	2d. Half. Dd.	Total admissions from each class.	Total deaths from each class.	Per centage of sick to strength.	Per centage of deaths to sick treated.
Fevers......	Febris ephemera	244	1	298	0	485	2	535	4	1020	6	121·428	0·588
	,, intermit quot.	178	1	235	3								
	,, remittens	0	0	1	1								
	,, com : cont....	63	0	1	0								
	Cholera	0	0	0	0								
Diseases of the abdominal viscera......	Diarrhœa.......	37	0	33	1	215	3	201	5	416	8	49·523	1·923
	Dysenteria.	41	3	35	4								
	Colica..........	5	0	0	0								
	Obstipatio.. ..	89	0	75	0								
	Hœmorrhois....	5	0	2	0								
	Gastritis........	0	0	1	0								
	Dyspepsia......	35	0	55	0								
	Hepatitis.......	3	0	0	0								
Diseases of the Lungs	Catarrhus......	37	5	37	1	50	6	50	5	100	11	11·904	11·000
	Pneumonia.. ..	13	1	13	4								
Diseases of the Brain.	Apoplexia......	1	0	1	0	54	1	20	1	74	2	8·809	2·702
	Epilepsia	0	0	1	1								
	Paralysis	4	1	0	0								
	Cephalalgia....	49	0	18	0								
Eruptive fevers......	Varicella.......	65	0	0	0	65	0	1	0	65	0	7·738	0·000
	Erysipelas......	0	0	1	0								
	Anasarca.......	4	1	1	2	4	1	1	2	5	3	0·595	60·000
Rheumatic affections.	Rheumatismus..	35	0	53	0	38	0	56	0	94	0	11·190	0·000
	Neuralgia	1	0	0	0								
	Odontalgia......	2	0	3	0								
Venereal affections..	Gonorrhœa.....	0	0	0	0	2	0	1	0	3	0	0·357	0·000
	Syphilis primitiva...........	0	0	0	0								
	,, consecutiva..	1	0	0	0								
	Hernia humoralis............	1	0	1	0								
Specific diseases.....	Atrophia.......	4	0	2	0	8	0	2	0	10	0	1·190	0·000
	Dracunculus....	4	0	0	0								
Diseases of the Eye..	Morbi oculourm	8	0	12	0	8	0	12	0	20	0	2·380	0·000
Do. Skin.	,, cutis......	5	0	8	0	5	0	8	0	13	0	1·547	0·000
	Other diseases..	115	1	175	0	115	1	175	0	290	1	34·523	0·344
	Total....	1049	14	1062	17	1049	14	1062	17	2111	31	251.309	1·466

Note.—Per centage of deaths to strength 3·690.

The Hills a station for European regiments.

The expediency of stationing European regiments on the Neilgherry hills, on first arrival in India, has been under the consideration of the authorities from time to time; and references have been made to the Medical officers of this establishment, who were best acquainted with the climate, for their opinions. It is not however, proposed in this place to discuss the subject, or to advert to the various arguments which have been advanced on both sides of the question, suffice it to say that the Medical officers in general have been favourable to the measure, and it has been strongly urged by some, that a European regiment in such a climate, beyond, as it has been said, the influence of the epidemic diseases met with in the low country, might be expected to be in as efficient a state for service when called on, as it would be in Europe, or when newly arrived in the country. The subject however is one for consideration in a *financial*, more than *medical* point of view, and though it may be concluded, that the mortality would be very moderate in a corps so placed, and that whilst actually stationed on the hills, the men would preserve both health and vigour, it is still doubtful, if the soldiers would be as efficient in the field, or as well able to bear up against the hardships, and exposure on active service, as those stationed in the low country, or who to a certain extent had become acclimatised..

Botany.

The botany and zoology of the hills, are subjects so comprehensive as to require a separate treatise for their discussion, and the records of the Medical Board, moreover, do not contain the necessary information regarding them, to admit of their being fully discussed. It is however thought proper to give the following extracts from the works of Drs. Baikie and Birch, with some notice of the botanical productions by Baron Hugël.

"The botanical productions of the hills are of the richest and most varied description, but they present a field as yet almost unexplored. From the peculiar nature of the climate, and their position between a tropical and temperate

zone, they partake of the characters and advantages of both; and plants of the most opposite descriptions, from the luxuriant produce of a rich soil under the influence of a tropical sun, to the small Alpine shrub, which niches itself in an angle of the bare rock, may be found, in the compass of a single day's journey. A difficulty in the way of a collector, whose leisure does not admit of his passing a considerable time on the hills, is, that there are plants coming into flower every month of the year, and it would require the labour of many seasons, added to indefatigable industry, to exhaust the Flora."—*Baikie*

The following observations on the general characters of the vegetation are from the pen of Baron Hügel, an officer of the Austrian army, who has travelled very extensively over Europe, and a great part of Asia, in the pursuit of botanical knowledge, and who paid the hills a hurried visit in March 1839. It is much to be regretted, that his plans did not admit of his making a longer stay, as he found much to interest him, and there was reason to expect some valuable information on the capabilities of the hills, from this talented individual, who, to a profound knowledge of the technicology of botany, united an intimate acquaintance with the practical application of the science to horticulture, and all other useful purposes.

"Having been only a few weeks on the Neilgherry Hills, although during that time I traversed them in all directions, I should not be able to give an account of the hill country I have explored, without the kindness of the Rev. B. Schmidt, who having resided at Ootacamund a long time, has put his herbarium at my disposal. Unfortunately the greatest part of the plants, being new or described only of late, more time and books would have been required, than a traveller possesses, in order to pronounce on their species, without the risk of exposing himself. The following pages contain therefore only general remarks on the vegetation and families of plants."

"In every part of the globe, the vegetation, considered as a '*tout ensemble*,' has its peculiar characters, or, as I would say *physiognomy*, which usually changes only at great intervals, and one part of the features of which, forms a portion of the physiognomy of the next. Thus we see some species, remarkable for their size, even in Norway, and in the uttermost northern boundaries of vegetation, form a part of that of the centre of Europe; whilst the plants which most frequently inhabit these woods are found in the north of Italy, and some of them even both in Italy and in Sicily, countries which, notwithstanding, differ from each other infinitely in their physiognomy.

"The same is the case, and even in a higher degree, with respect to tropical countries; the plants change more according to the soil, and the earth on which they grow, than according to the distance. To prove this, I would mention India, in which country, wherever the same soil is found, one may be sure to find not only the same families, but also the same species. I forbear mentioning instances, as they would prove too numerous. The high mountains throughout the globe possess a vegetation entirely different from that of the low country, and even from that of the lower mountains; but which present every where not only the same species, but often the same families, and always the same forms.

"It was very interesting to me to examine the Neilgherry hills, which perhaps cannot be classed among the Alps of our globe, but which have a vegetation quite Alpine, embellished and enlarged by the tropical sun, and the perpendicular beams of light; nearly all the forms of plants of the European Alps, with few exceptions, are found also here. A great number of families and genera are similar, but not one single species which I had occasion to observe is the same, with the exception perhaps of viola canina, which might be one of those subvariations, as viola canina, alpina, pyreniana, neglecta, &c. which I have not sufficiently compared. Berberis, so similar to B. communis, differs from it; it is perhaps B. vulgaris nigra of the Levant. Most other plants, as

rubus fruticosus, fragaria silvestris, &c. have been called so, by persons who suffered themselves to be deceived by a superficial (slight) resemblance."

" It would be very difficult for me, without an herbarium, without books, and even engravings, to speak positively, and to state that the Neilgherries have no species in common with any other part of the globe. For instance, I think the mahonia D. C. which grows there, is the fascicularis of America, &c. but the difference in the physiognomy of vegetation is as great as between that of Tornea in Sweden and that of Naples."

" The family of the compositæ is pretty numerous on the Neilgherries, as is the case on all high mountains, particularly the genus gnaphalium; the family of the Ericeæ veræ is found only in those genera which approach nearest to vaccinium; some species of ranuncularia, two of clematis, one magnoliaceæ, (I think of the subdivison of michelia, but not champaca:) some fine species of the cruciferæ? I can only say, that with regard to all these, the plants which I had in my power to examine and compare, are different from similar species found eleswere."

" A remarkable conformity exists between the Neilgherry plants, and those of the table-land and on the mountains of Nowera Ellia in Ceylon. This last place has many species entirely the same with those of the Neilgherries; many are but sub-variations of the same species, that is, rhododendron arboreum differs but little; the corolla is always of one colour, a deep red without the least spot. " Ficarræ, none*; umbelliferæ, some splendid species; caprifoliaccæ, some species: two gentianeæ, one of them with a beautiful blue flower, exacum bicolor? bignonia in the valleys, a beautiful species. Instead of the cistineæ of our mountains, we have here beautiful melastomacea, which crowns the highest mountains. Drosera, one†; malvacea, some species; geraniaceæ, none‡; some species are found on Nowera Ellia;

* One in Orange Valley since found. (S.) † About Ootacamund we have two. (S.)
‡ One common about Ootacamund. (S.)

hypericea, three. The leguminosa are not numerous, and the genus crotalcria, so abundant in India, producing here colossal plants, comprehends two-thirds of all the leguminosa. A fine species of rosa, with large white§ flower. One passiflora; beautiful cucurbitaceæ; a beautiful species of the crassulacea: a colossal species of solanum; some species of labiatæ; a few verbenacea and euphorbiaceæ. Of the urtica family only one, but in several beautiful varieties. None of the coniferæ. One Salix. Some beautiful and well distinguished Orchidea, bulbous; no amaryllideæ; few asphodeliæ; one tulipaceæ; A beautiful lilium, with one flower; and several species of the commelinea."

"The season being unfavourable for the gramineæ, when I was on the Neilgherries, I can say nothing of them*; but, on the contrary, nothing can be finer than the filices, the species of which are endless, from the fern tree, to the smallest plants. Fungi do not exist at all here†."

"To come back to the physiognomy of the vegetation, it is beautiful, smiling, flourishing; its expression is that of health, of a reproductive vigour, which, strong as it is, remains always noble and elegant."

"Having descended the Neilgherries on all sides, as far as the tropical regions, I have found a very singular thing, viz. a middle region between the Neilgherry Hills, and the usual vegetation of Malabar or Mysore, and which takes the place of our sub-alpine vegetation; I have found there several magnificent plants often of colossal size, and which vary greatly in the different passes of Goodaloor, of Kotagherry (or Orange valley), Coonoor, and Koondah; in short, the botanist finds in this wonderful country, attractions which few other parts of the earth can offer him, and which a delightful climate permits of his procuring, at the expense of excursions which would be fatiguing even in Europe, but which here only add to his enjoyment."

§ One fine red species also. (S.)

* Grapes are common at Kotagherry and Coonoor. (S.)

† Baron Hügel saw none at the season he was there, but they are common at other times of the year.

Dr. Birch in his topographical report on the hills in 1833, makes the following remarks:

"*The vegetable products are numerous and novel, but as yet few have been found to possess medicinal properties, or to be adapted for commerce, except the holly, *(Berberis)* the wood of which is of a bright yellow, and gives a good dye of the same colour. It grows very generally all over the hills, but is small and stunted, and would barely repay the expense of cutting and carriage. Of fruits, there is the wild raspberry, which grows luxuriantly in most of the woods, and a species of *myrtus*, which produces a wholesome fruit, in flavour and pulp, resembling the gooseberry, but enveloped in a skin like that of a peach. The brazil cherry and peaches have been successfully introduced, but generally speaking, no progress has been made in the cultivation of European fruit trees, although in the culinary department of horticulture, the success has been very marked; potatoes, peas, beans, cabbage, cauliflower, beet, carrots, turnips, celery, lettuce, grow very well, and are of good quality. Attempts have been made to raise both chenna, and coolty, but ineffectually. Barley thrives well, and oats indifferently, the latter produces little grain, but has an enormous stalk, five or six feet in height, and proportionally thick, and which if cut will grow again from the same root, so as to afford excellent fodder for cattle; as also does the blade of the kind of millet, which the natives of the hills chiefly live on."

"The indigenous grasses are coarse and rank, and not good for horses, although horned cattle do not suffer from feeding on them. Owing to this, and the coldness and humidity of the climate throughout the greater part of the year, sheep languish very soon unless fed upon grain; but goats, which have been introduced about eight years, thrive as well here as in the plain; horses fall off in flesh on their first arrival, but never in spirit, which seems to be increased by the bracing air; after a few months they get into good condition, they require to be warmly clothed and housed."

* The salep (orchis mascula) has been discovered in considerable quantity on the hills, but as yet has not become an article of commerce to any great extent.

Zoology. Elephants though numerous in the surrounding country, are not found on the hills, but are occasionally seen in the passes. The principal animals are the royal tiger, cheetas, bears, elk, jackalls, wild dogs, the muntjak, (a species of wild sheep), wild hogs, martens, large flying squirrels, polecats, also a species of fox, and hares in great numbers, porcupines, and otters are also to be met with.—Of birds there is a great variety, many species of which have not as yet been described; besides those peculiar to the plains, and to other mountain ranges, the most remarkable are the woodcock, black-bird and thrush, which appear to be identical with those found in England.

Of snakes and other reptiles there are likewise great varieties, and many of the former are said to be venomous.

More detailed information on these subjects is given in the accounts of the hills, by Baikie published in 1834; by Birch in a topographical report, published in the Madras Journal of Literature and Science No. 20 of 1838; and in Young's account of the Neilgherries, published in the Transactions of the Medical and Physical Society of Calcutta. vol. 4.

Madras Lith. Press.

Lithographed by B.C. Reigel.

NORTHERN DIVISION.

General description. This division of the army, lying on the eastern coast of the peninsula, between the 16th and 20th degrees of north latitude, came into the possession of the East India Company, in the year 1766. Of the five districts, formerly known as the "Northern Circars," four, viz. the collectorates of Masulipatam, Rajahmundry, Vizagapatam and Ganjam, are comprehended in this division,—the fifth Guntoor, lying south of Kistnah river, having been annexed to the Centre Division; in the report for which it is described.

In extent it is estimated to contain an area of 32,570 square miles, and a population amounting to 2,351,463 souls.

The division is bounded on the east, in its whole length, by the bay of Bengal; on the west by a chain of ghauts separating it, on the southern part, from the country of the Nizam, and on the north, from that of Gundwanah, which is but little known to the British; on the south it is bounded by the Kistnah, which separates it from Guntoor; and on the north by the Chilka lake, and the country of the Goomsoor Rajah.

The general aspect of the southern portion of the country, including Masulipatam and Rajahmundry, is that of a flat alluvial plain, (but little elevated above the level of the sea,) rising gradually towards the ghauts, which are here at a distance of from 50 to 60 miles from the coast. Further north the country is irregularly hilly, between the coast and the ghauts, which approach considerably nearer to it, rich alluvial plains being every where found between the hills. The climate of the coast, though hot and oppressive, from March till June, may be said to be generally salubrious, from having at that time, the advantage of the cool sea breeze, and a mild temper-

ature, throughout the other months of the year. The ghauts, though possessing a colder climate, are scarcely habitable either by Europeans, or by the natives of the coast, from the malarious condition of the atmosphere, occasioning fevers both of the intermittent and remittent type, from which few who visit these localities escape;—and consequently the hilly regions,as well as the country westward towards Nagpore, are but very imperfectly known, extensive tracts of it never having been surveyed.

Stations in the Division.

The civil and military stations in the division, are Masulipatam,Ellore, Condapillay and Ragapore, in the Masulipatam collectorate.—Rajahmundry and Samulcottah, in that of Rajahmundry;—Vizagapatam, Vizianagrum, and Palcondah, in the Vizagapatam district;—and Chicacole, Berhampore, Russel-condah, Aska, and Kimmedy in the Ganjam district.—A small and inconsiderable French settlement, comprizing a limited tract of country on the coast, called Yanam, lies opposite to Injeram, on one of the branches of the Godavery, where some coasting trade is carried on with Pondicherry, and other French settlements in India.

The out stations of Condapilly, Ragapore, Palcondah, Kimmedy and Aska, being only occupied by detachments of native troops, relieved periodically from the head quarters, of corps, and under the charge of medical subordinates, require no separate notice.

DISTRICT OF MASULIPATAM.

General description.

The district, or collectorate of Masulipatam, has undergone several changes, as regards its boundaries, since it first came into the possession of the East India Company, but it is only necesssary in this report, to describe it as they are now fixed.

It is about 113 miles in length, by 100 in breadth, comprehending an area of 4,820 square miles, and contains a po-

pulation, according to the census of (1837), of males 1,77,472, females 1,54,567, making a total of 3,32,039, or about 69 souls to the square mile.

It was formerly one of the northern circars, and belonged to the Nizam, who ceded it in 1765, to the English. Upwards of two centuries ago, the Dutch had a commercial settlement here, and several of their tombs bearing date 1660, are still to be seen; they do not appear to have had any houses in the pettah, but to have lived entirely in the fort, for the security of their property.

The French under M. Dupleix acquired possession of the fort, and part of the surrounding territory.

In 1765 the fort was re-captured from them, after a smart engagement, by a detachment of the English army under Colonel Forde; and has ever since remained in our possession.

The inhabitants are chiefly gentoos, the proportion of mahomedans not being more, it is said, than 1 in 20.

Boundaries and appearance of the country.

The district is bounded on the south-west by the river Kistnah, on the north-west by the Nizam's territories, on the north-east by the river Godavery, and on the south-east by the bay of Bengal. From Beizwarrah, a town on the banks of the Kistnah, about 45 miles from Masulipatam, the country to the north-west is hilly, and rises in elevation as it approaches the Nizam's boundaries; some of the valleys are picturesque and very fertile, although there is a good deal of jungle, affording shelter to tigers, bears, and other wild animals. To the south-east of Beizwarrah, as far as the sea, the country is an extensive plain, without any elevation, that can be called a hill; the general level of this plain is but little above the sea, and in one part near its middle, it sinks somewhat and forms the great Colair lake. Along the coast, the level is rather higher, in consequence of the sand banks thrown up by the sea, which oppose the only barrier to its encroachment, when spring tides and hurricanes occur.

Rivers. Besides the great rivers Kistnah and Godavery, which bound the district on two sides, there are many smaller streams intersecting it in different directions. Some take their rise in the north-west, and fall into the Godavery on the one side, or the Kistnah on the other, whilst others, taking a central direction, flow into the Colair lake. Many of them are supplied entirely by the rain that falls among the hills, and are nothing more than mountain streams; and others are mere channels, by which the surplus waters of the Kistnah and Godavery, find a passage to the sea, when they overflow their banks. A stream leading from the Godavery, and another from the Colair lake, unite and form the Oopoolair, a considerable river, which falls into the sea at Maddapolliam; it is salt for several miles inland, and deep enough for the passage of boats, between the sea and the lake. The Moonyair, also a considerable river, falls into the Kistnah about 28 miles above the Beizwarrah; another, the Boodwair, takes its rise a little to the north-east of Mylavesum, and after traversing the country among the hills, finds its way round the north-east end of the Beizwarrah range, and ultimately runs into the Colair lake. The head of the Tummylair is also among these hills, but higher than the source of the Boodwair, and taking a central direction, passes close to Ellore, and like the latter, runs into the lake.

Between Beizwarrah and the lake, on one side, and the sea on the other, there are no rivers of any size, with the exception of the Poolair, which is more properly a canal supplied by the overflowing of the Kistnah, to which it was formerly joined a few miles below Beizwarrah. This channel partly from neglect, and partly from the obstacles thrown in the way of its being kept open, by interested Zemindars, has been closed for many years, till lately, when it was partially cleared by the Civil Engineer of the division. The new opening into the Kistnah is further down the river, and is furnished with sluices, for the purpose of regulating the supply of water for irrigation. Originally, this river traversed the country, from 30 to 40 miles towards the sea, and it is

said to be the intention of the authorities to re-open it throughout its entire length, but the new cut comes far short of this at present. The only canal of any consequence in the district, if the Poolair does not come under the denomination, is one, which opening from the sea, about a mile or a mile and a half from the fort of Masulipatam, and passing close to its walls, through the swamp, with which it is surrounded, joins the Kistnah about 12 or 14 miles inland. It is sufficiently deep to admit small vessels, with cargoes of bricks, tiles, firewood, &c. but its entrance to the sea is obstructed by a bar of hard sand, close to the surf, and which at low water, completely prevents the passage of boats, to or from the shipping in the roads.

Colair lake. The Colair, the only lake in the district; is situated between Ellore and Masulipatam, but much nearer the former than the latter town, and, during the rains is said to cover upwards of twenty square miles; at this time the communication between Masulipatam and Ellore, is kept up principally by the Beizwarrah road. The lake has no permanent outlet, except that which joins the Maddapolliam river, a short distance from the sea. About twenty years ago the water rose so high as to force a new passage to the sea,and although it is closed up annually during the dry season, it again becomes open in the monsoon. These waters abound with fish, and the shores with wild fowl.

Tanks. Tanks are numerous all over the country, but there are none worthy of particular notice. In the dry season of the year, the chief dependance for water is on large brick built wells, sunk, some of them, to a great depth; the water of which is in general very good.

Hills. There are no hills within less distance than 45 miles of Masulipatam. The nearest are those of Beizwarrah at which place, as well as at Condapilly, nine miles farther west, they rise to a considerable height; but at Condapilly, the highest hills in the district, they do not exceed in elevation 1,700 feet. They are principally composed of a hard, small grained, dark coloured granite.

Roads.

There are five roads leading in different directions from Masulipatam, to join the great northern line. One runs south along the coast to Ongole; another to Guntoor; the third and principal one to Beizwarrah; a fourth to Ellore, passing by the Colair lake; and the fifth to Samulcottah, by the coast. From want of materials, the roads can only be kept in order at a great expense, and they are always very heavy during the rains.

Mineral productions.

Granite, sienite, marble of various kinds, slate, lime stone and iron, are found in the interior of the district; diamond mines were also formerly worked, but it would appear that they do not now yield any profit. There are no mineral springs, with the exception of one, a hot spring in the bed of the Godavery.

Soil.

The soil is mostly alluvial, and is very productive, except within a short distance of the sea, where it becomes sandy and light. Of the 4,820 square miles, which the collectorate is said to contain, about 500 are under cultivation, and the greater part of the remainder, is pasture land. Rice is not grown so extensively as the soil would admit of, a sufficient, and constant supply of water not being available; this want it would seem was better attended to, in former than in latter times; though if the improvements going on at present, under the direction of the Engineer, in opening canals, and repairing and making tanks and bunds, be persevered in, the evil will be greatly lessened; in the mean time the people have to depend on other places for this indispensable article, and a large quantity of rice is annually imported from Calcutta, and from the Tenasserim coast. Independently of the employment cultivation would give to the ryots, the ship rice is often bad, and the price high, from its having to pass through the hands of merchants, who have it in their power to regulate the market.

Vegetable productions.

Dry grains, are produced in abundance; tobacco, cotton, oil seeds and chay root, are also raised. The chay is

much used by the native dyers, and cloth printers, in preparing their red colours. All the native, and many of the European vegetables, may be reared, and good carrots, turnips, cabbage, peas, endive, lettuce, celery, and even potatoes, produced in the gardens at Masulipatam, are procurable; and there is no doubt but the supply in the bazaar would be regular and abundant, if the number of European residents was sufficient to create a demand for them.

The proportion which the agricultural classes bear to the whole population, is calculated to be about one thirteenth. Some of them are in easy circumstances, but others, are at all times little above want. When the seasons are favourable, all classes can procure a subsistence, but when the rains fail, distress is more or less generally felt, and this of late years, has been often the case.

Native dwellings. The houses of persons of the better description, are built of brick or mud, of a convenient height, with good sized doors, and small windows, they are roofed with bamboos and palmira leaves, or tiled; but the huts of the poor are generally constructed in a conical form, of bamboos and palmira leaves, resting on the ground, or raised on low mud walls, with an entrance on one side, better deserving the name of a hole than a door. In these the only things to be met with, are a few cooking and water chatties; but in the dwellings of the wealthy it is not uncommon to find cots, chairs, and other European articles of furniture.

The lower parts of the collectorate are open, and comparatively free from jungle, and rocks. Topes of mango, tamarind and palmira trees are numerous, besides a great variety of other descriptions, some of which are esteemed for their medicinal virtues, as well as for the quality of the timber. One of these, the babool—acacia arabica—which grows plentifully on the banks of the Kistnah, is of importance from the quantity of gum it affords, and the employment it gives the people

in gathering it. It is in demand principally by the mootchics and cloth printers.

Wild animals. The wild animals met with, are the tiger, bear, hyena, wolf, byson, hog, jackall, deer, antelope and hare. The larger kinds, are found only in the jungles at a distance from the sea; but the smaller ones are common all over the country. Wild fowl are also very numerous.

Town & station. Masulipatam is the principal town in the collectorate, not only on account of its being the chief military station, and usually the head quarters of the division, and the chief residence of the civil servants; but also from its population, trade, central position, and the facility of communication with Madras by sea; it is also the grand depôt for military, and commissariat stores, for Secunderabad, Jaulnah and Kamptee. It lies in north latitude 16°. 9′., and east longitude 81°. 12′;—and is 322 miles north of Madras, by the high road, but only 286 by the coast; it is 797 miles distant from Calcutta.

The cantonment stands on a low sandy ridge, about two miles from the sea. Between the beach, which is raised a little by sand banks, and the town, the ground is so low that it forms a swamp, and sometimes a lake of considerable extent in the monsoon, in about the centre of which stands the fort; that part of the swamp north-east of the fort, is only overflowed at spring tides, during the monsoon; and in the hot season is perfectly dry and hard, making the best drive about the place.

Swamp. When under water, the swamp extends beyond the limits of the native town, but its deepest part is near the south-west side of the fort, where it is usually a bed of mud in the dry season of the year, and through which, a canal runs to the sea from the Kistnah river. The lake was formerly divided into two parts by bunds, constructed about 40 or 50 years ago. From Caramede, a fine tope, a mile north-east of the fort, where there is excellent fresh water,

one of these bunds ran along the beach, until it approached close to the fort, where it joined the glacis, and the second passed from the glacis on the other side of the fort, to the rising ground near the pettah;—thus completely shutting out the sea from that part north of the salt river. The one was called the eastern dyke, and the other the western; in each of which was a sluice for the exit of the water, collected within them in the monsoon. These bunds have long been useless, from neglect; indeed the greater portion of the western, and the Caramede part of the eastern dykes, have disappeared, and the sea has now free ingress at all quarters; but as the swamp is higher than the sea at low water, it is only in unusually high spring tides that it is flooded; on ordinary occasions, the tide is confined to the river, and one or two small channels branching from it, in all of which it ebbs and flows. Formerly there was a free passage for the water, by arches passing under the causeway, but these have lately been closed up, the advantage gained however, by the exclusion of the sea water, is nearly counterbalanced by the retention of the rains, which, from the lowness of this part of the swamp, and the want of any other outlet, collects into stagnant pools, until absorbed or evaporated.

During the dry season, some parts of the swamp produce a short stunted grass.

Mirage. The *mirage** is a common phenomenon on the morass, and frequently the resemblance to water, both smooth and rippled, is so perfect, that it is quite undistinguishable from a real lake or sea, until close upon it, when it gradually vanishes; on looking round, the same appearance is distinctly seen on the ground just travelled over, so that if unaware of the cause, a person would be not a little puzzled, to account for having passed through so much water, without its being observed.

Behind the pettah there is another morass, but smaller

* The Sahr-ab, or water of the desert, as it is called by eastern writers.

than the one in front; this is crossed by a bridge of five arches, near its centre, where it is scarcely ever dry, and is so deep in the rains, as not to be fordable. These swamps are partially united at the south west end of the pettah, in heavy monsoons.

Fort. The fort, as before said, stands about the middle of the swamp, opposite to the north east end of the native town, with which it communicates by a causeway. It is an oblong square, of 800 by 600 yards, with high ramparts, and a wide and deep ditch. Within the fort are, the arsenal, powder magazines, the garrison hospital, and barracks for one European and one native regiment; also the protestant church, and a roman catholic chapel, with several large houses, many of which are going to ruin from being untenanted. The Commanding officer, garrison surgeon, fort adjutant, engineer, commissary of ordnance, and subordinate staff, still reside within the walls. There is no good water inside, and that used for drinking is brought from the pettah, or from the Caramede tope. In former days it was conveyed from wells in the pettah, by a covered channel, which ran along the causeway, and was received into a large reservoir within the ramparts, but these works have long been out of repair.

Cantonment. The ridge on which the pettah and cantonment stand, is about a mile north-west of the fort; it is four miles and a half in length, by one in breadth, being highest near the south-west extremity, but falls so much in the direction of the native town, that the greater part of it, and the cantonment, are but little raised above the level of the swamps when flooded; and from the difficulty, or perhaps impossibility, of the water running off, many parts remain flooded for several weeks. Attempts have been made to drain the place, by means of convict labour, though never on so large a scale as was attempted in 1838, but even after channels have been made, the trouble, and attention necessary to keep them open, when cut through sand, is so great, that it can scarcely be effected. One third of the space mentioned, is occupied by the cantonment, which is

bounded on the south-west by the native town; on the south east by the salt swamp; on the north-east by ground as high as that of the cantonment, and usually dry; and on the north-west, partly by the fresh water morass, which does not reach the north-east extremity of the cantonment, except in the heaviest rains. The cantonment is irregularly laid out, but the principal roads run parallel with the beach, and join that from the fort, as it passes westward through the pettah; these are again crossed at two or three places by others, which divide the cantonment into several irregular squares.

Public buildings. The public buildings are the provincial and zillah courts, the collectors cutcherry, the jail, barracks for two native regiments, and a chapel. Several years since, a building containing a theatre and ball-room, was erected by public subscription, it is now however private property, and is occupied as a mess house.

The lines and hospital of one regiment, are close to the boundary hedge on the north-east; those of the other corps, are on the edge of the salt swamp, but the hospital stands in the centre of the cantonment, near the jail. The site of both is dry, but during the rains and for sometime afterwards, there are many pools near them, which cannot be drained, but the water is gradually absorbed by the light sandy soil. The public buildings, as well as private dwellings, amounting to between 40 and 50 in number, are surrounded by thick prickly-pear hedges, which with numerous palmira, cocoa nut and other trees, materially obstruct the free circulation of air, and produce at certain seasons, an accumulation of putrifying vegetable matter. The water is generally brackish, chiefly from containing muriate of soda, which however, is in much larger proportion, in some wells than in others.

Native town. The native town is situated at the south-west of the cantonment, and occupies the remaining two thirds of the ridge, giving little more than three miles, for a population which, by the census of 1837, amounted to 27,884; of this number 24,029 were hindoos, and 3,855 mussulmans,

being in the proportion of a little more than one to six; a higher ratio of mussulmans, than is to be found in other parts of the collectorate, from the influx of persons of that religion occasioned by trade; a considerable number of persian and mogul traders, who have long been settled here, are included in the number.

The site of the town, particularly at the south-west end, is low and subject to much inconvenience from the lodgement of water. The principal streets are wide, airy, tolerably straight, and regularly built; and some of them run nearly the entire length of the town.

Robertson's Pettah.

There is only one large square, for which, and also the improved condition of part of the pettah in its vicinity, the people are indebted to Mr. Robertson, (formerly assistant to the collector), whose name it bears; and it has now become the principal market-place. Many of the houses in the town, are large and upper storied, substantially built with brick and chunam, and have tiled roofs. Even most of the dwellings of the poor are commodious and clean, the consequence probably, of the cleanliness required in the manufacture of cotton cloth, in which so many of the inhabitants are engaged. Altogether the pettah has somewhat of the air of a European town. The mogul merchants reside in the western quarter, in garden houses surrounded with high walls. Notwithstanding, however, the advantages it possesses over most native towns, there are many narrow lanes, and miserable hovels, which are completely flooded during the rains, and although small embankments are made in front of the doors at this time, to keep out the water, these houses cannot possibly be otherwise than damp and unhealthy; and they are consequently found to be the hot beds of disease, in sickly seasons.

Trades and Manufactures.

The great body of the people are employed in trades, and manufactures of various kinds, which although not carried on to the same extent, as in former times, when Masulipatam was celebrated all over the mercantile world for its printed clothes, they are still very

considerable, and of late are said to be improving. The manufacture of cotton alone, including weaving, printing, bleaching, washing and dressing of the various kinds of cloth, such as table linen,towels, ginghams, tartans, &c., employs so large a proportion of the inhabitants, of all ages, that it appears to have influenced the character and habits of the people, for no where is a better dressed, or more respectable looking native community to be met with. Indeed frugality among the better classes, most of whom have made their money in trade, seems to be carried to a fault, for according to report, they restrict their charity to the relief of brahmins alone. The poor and indigent, as in all mercantile towns, are however numerous.

Climate. The seasons may be divided into the hot, rainy and cold; the first commences in March, and ends about the first week in June; the second lasts from June, until the end of October, the greatest fall of rain occurring in the south-west monsoon; the annual average being about 35 inches. The third or cold season commences in November, and terminates about the end of February; at this period the sky is generally clear, with a cold breeze blowing from the north-east, and the mornings are usually cold and bracing. The thermometer ranging from 54° at sun rise, to 70°; and the mean temperature being from 65° to 76°, at noon, during the months of November, December, and January. In February the thermometer ranges from 66° to 84°; in March from 70° to 90°, and in April from 80° to 92°. During the two latter months, which are the most disagreeable throughout the year, the wind is frequently from the south-west, and is of a very relaxing and debilitating character. In May the temperature rises to 96° at noon, and sometimes even as high as 104°; the hot or land winds setting in pretty regularly, about the 8th or 10th of the month, but the excessive heat, is tempered by the sea breeze, which at this period usually sets in early in the afternoon. These winds in general, continue to blow steadily until towards the end of the month, when dense masses of clouds begin to accumulate in the south-west, and in the evenings north-westers, with thunder showers are frequent;

but the hot winds seldom terminate before the first week in June, when in regular seasons, the rains commence, lowering the temperature to about 86°.

The climate, from being hot and moist,—although there is reason to believe the mean temperature in the shade, is less by two or three degrees than that of Madras,—feels warmer, and the reflected heat from the sand, and saline crust on the swamp, in dry weather, increases the temperature considerably. The alterations of temperature, are however, not so great as at Hyderabad, and other parts of the Deccan, where a diurnal range of 30 to 40 degrees is not unusual; whilst at this station the highest range observed has been 24° and upon an average during the months of November, December, and January, the range seldom exceeds 10 or 12 degrees, whilst during the rest of the year, the variation between the day and the night, is much less.

Insects. Throughout the whole of the wet season, insects of different kinds are numerous, and very troublesome. After the first showers in June, the large black ant makes its appearance, some houses being overrun with them, but they are not destructive; the bite however is painful though no bad consequences follow from it. The white ants are numerous and destructive to clothes, books and furniture of every description, and it requires unremitting attention to keep them down; they also speedily destroy the beams and rafters of houses, and if allowed to go on undisturbed, will soon render a house dangerous to live in; the inside of the beams being sometimes completely destroyed, whilst the outside appears to be quite sound. At a later period of the monsoon, winged insects appear, and soon become a nuisance. In calm evenings, the air appears to be quite alive with them, and when the houses are lighted up, they are attracted in such numbers, as to render all attempts at reading, or other employment near the light, quite impracticable. Although

Snakes. not numerous, there are several kinds of snakes to be found; some few of which are venomous, but they are for the most part harmless. Lizards, centipedes and

small scorpions are also found, the sting of the latter being painful, but never dangerous; a thick paste made of ipecacuan and water, laid over the wound, speedily effects a cure.

Native treatment of disease.

The native doctors state, that intermittent fever seldom terminates in death, but, that on the other hand, a large proportion of the cases which assume the remittent or continued form, are fatal. In the first, they give mercury and decoctions of various kinds, with full diet; but in the latter, they appear to place their chief dependance on abstinence, which with the use decoctions, is strictly enjoined for weeks, should the patient survive so long. Bowel complaints are frequent, and, as they commence, according to the native doctors, in the hot weather, before the rains set in, they suppose that they are produced by drinking too much water. In these affections they prescribe mercury, opium and spices ;—cholera, they treat in a similar manner.—Beriberi, and dropsy, they consider as similar diseases, both in their nature, and in the exciting causes; and the treatment is nearly the same in both ; they look upon them as tedious, but not very fatal, and in the treatment prescribe rust, and other preparations of iron, combinations of mercury, and sulphur, with spices; but their favourite remedy seems to be cow's urine, passed three or four times through a mass of powdered walnuts; and given to the exent of three or four ounces several times daily; but this, they acknowledge is not always retained on the stomach. Treeak-farook was formerly in high repute in these disorders, but lately it has not been so efficacious, in consequence as it is supposed, of adulteration in preparing it. Rheumatism is also a common disorder, and treated with hot spices, and decoctions. Consumption is often met with, and is said to be a tedious and fatal disease; but the native doctors believe that it is always the result of other disorders, such as fever, &c., to which the patient had previously been subject.

Native women suffer much after parturition, especially

from fever, which has of late proved very fatal. Cases of difficult labour are common, but native doctors never engage in the practice of midwifery; and as few of the midwives have the ability, or boldness to make an attempt at manual relief, European aid is often called for, in such cases.

Jail. The prison is situated in the centre of the cantonment on a well raised piece of ground. It was erected in 1819, and is built with brick and chunam. It is in the form of a cross; each wing being 80 feet long, and containing two cells 15 feet in breadth; that on the south-east side has an additional room which is used as a dispensary. The walls on the outside are 10 feet high, but the floors which are of brick and chunam, having been lately raised 12 inches, they are consequently lower on the inside. Each cell has one door and four windows, without any counter opening in the opposite wall, but there are ventilators in the roof. The jail is surrounded by a wall 14 feet high, which running at right angles to the wings, forms with them, four courts, appropriated for the use of the prisoners. In each there is a well, and a small detached building, originally intended as a cookroom and privy, but never employed for the latter purpose, necessaries having been built behind the blank walls which communicate with the cells; they are however only used during the night.

Hospital. The new hospital built outside the walls, was first occupied in 1842; it is a very substantial building, with a small compound adjoining, and communicates with the jail by a door way. It is raised about 8 feet from the ground, and contains apartments of the following dimensions. One ward 30 by 15 feet and 12 feet high. A dispensary 11 by 9 feet, a dead-room 10 by 9 feet, and two small rooms 10 by 7 feet. It is surrounded by a verandah 18 by 9 feet; the height of the outer wall is 10 feet.

JAIL OF MASULIPATAM.

[N]o. 11.—*Table exhibiting the number of Admissions and Deaths of [th]e Convicted Prisoners, from each class of diseases, for ten years, from* 1829 *to* 1838 *inclusive.*

[C]CLASSES,	DISEASES.	1829 to 1838. Aggregate strength 3863. 1st Half. Ad.	1st Half. Dd.	2d Half. Ad.	2d Half. Dd.	Admissions & deaths from each class of diseases. 1st Half. Ad.	1st Half. Dd.	2d Half. Ad.	2d Half. Dd.	Total admissions from each class.	Total deaths from each class.	Per centage of sick to strength.	Per centage of deaths to sick treated.
[Fe]vers.	Febris ephemera	31	0	53	1	193	16	391	25	584	41	15 ·117	7 ·020
	,, intermit quot.	135	9	296	18								
	,, tertiana.......	5	0	30	0								
	,, remittens.. ...	17	4	3	2								
	,, com ; cont....	5	3	9	4								
	Cholera........	17	10	57	31	17	10	57	31	74	41	1 ·915	55 ·405
[Dis]eases of [t]he Abdominal viscera.......	Diarrhœa......	32	9	53	8	72	17	124	21	196	38	5 ·073	19 ·387
	Dysenteria acuta et chronica	39	8	71	13								
	Obstipatio......	1	0	0	0								
	Hepatitis.......	1	0	0	0	1	0	0	0	1	0	0 ·025	0· 000
[Dis]eases of [th]e Lungs	Catarrhus......	46	2	26	2	51	6	34	7	88	13	2 ·278	14 ·772
	Asthma........	4	2	3	2								
	Phthisis pulmonalis..........	2	2	1	1								
	Pneumonia.. ..	1	0	3	2								
	Palpitatio......	1	0	0	0								
	Dyspnœa.......	0	0	1	0								
[Dis]eases of [th]e Brain.	Apoplexia......	1	0	2	1	6	1	10	5	16	6	0 ·414	37 ·500
	Epilepsia.......	0	0	3	1								
	Amentia........	0	0	1	0								
	Paralysis.......	3	1	3	2								
	Phrenitis.......	2	0	1	1								
[Eru]ptive fe[v]ers......	Variola.........	24	7	0	0	106	7	0	0	106	7	2 ·743	6 ·886
	Varicella.......	81	0	0	0								
	Erysipelas..... ..	1	0	0	0								
	Anasarca.......	51	13	53	12	51	13	53	12	104	25	2 ·692	24 ·038
	Rheumat. acutus et chronicus..	34	2	60	1	34	2	60	1	94	3	2 ·433	3 ·191
[Ven]ereal af[fe]ctions...	Syphilis primitiva..........	2	0	3	0	2	0	5	0	7	0	0 ·181	0 ·000
	Gonorrhœa.....	0	0	2	0								
[Spe]cific dis[ea]ses.....	Atrophia.	1	1	0	0	19	7	39	13	58	20	1 ·501	34 ·482
	Beriberi........	13	6	32	12								
	Dracunculus....	2	0	0	0								
	Elephantiasis...	0	0	1	0								
	Scrophula......	1	0	1	1								
	Ulcus phagedenicum....,....	2	0	5	0								
[Dis]eases of [th]e eye...	Morbi oculorum	12	0	15	2	12	0	15	*2	27	2	0 ·698	7 ·407
,, ,, Skin.	,, Cutis......	5	0	3	0	5	0	3	0	8	0	0 ·207	0 ·000
	Other diseases..	305	2	227	5	305	2	227	5	532	7	13 ·771	1 ·315
	Total..	877	81	1018	122	877	81	1018	122	1895	203	49 ·055	10 ·712

* From cholera.

JAIL OF MASULIPATAM.

No. 12.—*Table exhibiting the number of Admissions and Deaths of the Prisoners under trial, from each class of disease for ten years, from 1829 to 1838 inclusive.*

CLASSES.	DISEASES	1829 to 1838. Aggregate strength 685.				Admissions and Deaths from each class of Disease.				Total admissions from each class.	Total deaths from each class.	Per centage of sick to strength.	Per centage of deaths to sick treated.
		1st Half.		2d Half.		1st Half.		2d Half.					
		Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.				
Fevers......	Febris int. quot.	2	0	6	2	3	1	8	3	11	4	1 ·605	36 ·363
	,, tertiana......	0	0	1	0								
	,, com: cont....	1	1	1	1								
	Cholera	3	2	6	2	3	2	6	2	9	4	1 ·313	41 ·444
Bowel complaints. ..	Diarrhœa	8	4	4	2	17	7	17	8	34	15	4 ·963	44 ·117
	Dysenteria acuta et chronica	9	3	13	6								
	Catarhus.	2	0	0	0	2	0	0	0	2	0	0 ·291	0 ·000
Eruptive fevers......	Variola.........	42	11	2	0	97	11	2	0	99	11	14 ·452	11 ·111
	Varicella.......	55	0	0	0								
	Anasarca.......	6	4	3	1	6	4	3	1	9	5	1 ·313	55 ·555
	Rheumat acutus et chronicus. .	4	1	1	0	4	1	1	0	5	1	0 ·783	20 ·000
	Syphilis primitiva..........	0	0	3	0	0	0	3	0	3	0	0 ·437	0 ·000
Specific diseases.....	Beriberi........	2	0	9	3	4	0	9	3	13	3	1 ·897	23 ·076
	Dracunculus....	1	0	0	0								
	Scrophula......	1	0	0	0								
	Morbi oculorum	0	0	0	0	0	0	0	0	0	0	0	0
	,, cutis....	0	0	0	0	0	0	0	0	0	0	0	0
	Other diseases..	12	1	13	0	12	1	13	0	25	1	3 ·649	4 ·000
	Total..	148	27	62	17	148	27	64	17	210	44	30 ·656	20 ·952

Remarks on the preceding tables.

The average annual strength of the convicted prisoners has been 386, and the annual admissions have amounted to 189, or 49·055 per cent on the strength during the ten years; the mortality has averaged 20 annually or 5·254 per cent on the strength; the total admissions having amounted to 1895, with 203 deaths, from an aggregate strength of 3863.

The prisoners waiting for trial have been comparatively few, the aggregate strength during the ten years amounting to 685; the admissions into hospital have been 210, or 30·656 per cent, and the deaths 44, or 6·423 per cent on the strength.

		Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.
Convicts.	Fever	41	2	17	0	31	3	25	1	15	1	167	16	136	10	58	3	69	2	25	3	584	41
	Cholera	0	0	0	0	7	5	44	24	22	12	0	0	0	0	0	0	0	0	1	0	74	41
	Diarrhœa	14	0	11	0	13	1	7	3	7	1	4	3	12	3	0	1	12	1	5	1	85	17
	Dysentery	8	0	12	0	9	2	11	2	21	3	22	7	20	6	3	0	2	0	2	1	110	21
	Anasarca	10	0	2	1	0	0	3	0	5	3	12	6	12	6	0	0	34	2	26	7	104	25
	Beriberi	5	0	2	0	3	1	1	1	8	4	4	2	4	2	3	2	11	3	4	3	45	18
	Admissions and deaths from these diseases.	78	2	44	1	63	12	91	31	78	27	209	34	184	27	64	6	128	8	63	15	1002	163
	Total admissions and deaths	150	3	111	2	207	13	179	36	222	33	255	41	252	33	119	7	218	13	182	22	1895	203
	Strength each year	108		102		240		389		603		512		476		425		509		499		3863	
under Trial.	Fever	2	0	0	0	0	0	0	0	4	1	3	3	2	0	0	0	0	0	0	0	11	4
	Cholera	0	0	0	0	0	0	5	2	4	2	0	0	0	0	0	0	0	0	0	0	9	4
	Diarrhœa	3	0	1	0	0	0	0	0	2	2	3	2	2	1	0	0	0	0	1	1	12	6
	Dysentery	4	0	1	0	4	1	1	0	10	6	2	2	0	0	0	0	0	0	0	0	22	9
	Anasarca	2	0	0	0	0	0		2	1	1	3	1	0	1	0	0	1	0	0	0	9	5
	Beriberi	1	0	3	0	0	0	0	0	7	3	0	0	0	0	0	0	0	0	0	0	11	3
	Admissions and deaths from these diseases.	12	0	5	0	4	1	8	4	28	15	11	8	4	2	0	0	1	0	1	1	74	31
	Total admissions and deaths	24	0	8	0	11	2	12	4	118	*21	29	11	5	2	0	0	1	0	2	1	210	44
	Strength each year	40		38		43		50		281		141		42		7		15		28		685	
	Admissions and deaths amongst both classes of prisoners	174	3	119	2	218	15	191	40	340	57	284	52	257	35	119	7	219	13	184	23	2105	247
	Total strength each year	148		140		283		439		884		653		518		432		524		527		4518	
	Per centage of deaths to strength	2	·270	1	·428	5	·300	9	·111	6	·448	7	·963	6	·758	1	·620	2	·480	4	·364	5	·430
	Per centage of sick to strength	117	·567	85	·000	77	·031	43	·507	38	·461	43	·491	49	·613	27	·546	41	·793	34	·913	46	·284
	Per centage of deaths to sick treated	1	·724	1	·680	6	·880	20	·912	16	·764	18	·309	13	·618	5	·882	5	·936	12	·500	11	·733

* including 9 deaths from Variola.

In table No. 13 are exhibited the annual admissions and deaths from six of the principal diseases, viz. *fever, cholera, diarrhœa, dysentery, anasarca* and *beriberi;* the total sick treated and mortality are also given, for the purpose of shewing the great proportion of the whole mortality occasioned by these diseases; amounting to 194, out of 274, or fully 4-5ths.

The following extracts from the reports of the medical officer in charge, are interesting and bear upon several points elicited in the preceding tables.

"The celerity with which disease runs its course amongst the prisoners, especially when advanced in years, is remarkable, one of the fatal cases of dropsy was a striking instance of this kind. The patient had been in jail only a few months and came in a firm, healthy, old man; who, if judged from his corpulency, had been in easy circumstances, he soon began to fall off; but, as he felt no pain, he made no complaint. At last dropsy appeared, and when he applied for relief, his appearance was most miserable; instead of the fat old man, he was now a gaunt figure with his skin hanging loose about him; he died in a fortnight."

"The causes are doubtless confinement and restriction to a kind of diet to which they are unaccustomed. The prisoners never complained of quantity, but the murmurs regarding the quality were so frequent, that enquiry was lately instituted, and the rice, stored by the contractor for the use of the prisoners, was found so bad and so inferior to the samples which he had lodged in the court, that the officer in charge of the jail, ordered it to be thrown out. But independently of the disadvantages to which they are subject from their being obliged to take all the articles of diet from one person, the want of those stimulating and nourishing additions to their food, of which the natives are so fond, will in some degree account for that deficiency in constitutional vigour, necessary not only to resist the invasion of disease, but which also retards its progress." *Dated 30th June,* 1832.

" The mortality amongst the prisoners at this station during the year 1832, has been unprecedentedly great; owing to the extensive prevalence of disease, and the misery to which the native population was reduced by the late scarcity. For, although the diet and clothing allowed to the prisoners are a sufficient protection against these evils, a great proportion of the numerical strength at this period, was made up of poor creatures, whose health and strength were, in many instances, so far reduced previous to confinement,that no benefit was derived from the food and clothing, which this secured to them, or from the care and comforts of the hospital. In the course of the first half year, cholera,small pox and chicken-pox were epidemic, and although the latter disease was in every instance mild, no less than 25 cases of the other two terminated in death, during the second half year, beriberi, cholera, diarrhœa, dropsy, dysentery and fever were the prevailing diseases, and all of them were more or less fatal; 31 having been carried off by these disorders."

" The debilitated state of the sick prisoners at this time rendered stimulants and cordials a useful class of remedies, without which the proportion of recoveries would have been small indeed. In beriberi they were especially serviceable. Dropsy was very fatal, and stimulants only afforded temporary relief. The usual and most convenient form of stimulant was punch, made of arrack, and given three or more times daily."

" In comparing the proportion of fatal cases, with the numerical strength, they will be found to be nearly the same throughout the whole year; but the proportion of deaths to admissions, is much greater in the second than the first half." *Dated* 31*st December* 1833.

" The number admitted from anasarca is 33, and from beriberi 10. Under the former head are included all dropsical cases, though the effused fluid was not confined to the cellular membrane, if neither numbness, nor tottering debility of the legs were observable on admission; and all those

cases in which the latter symptoms existed although dropsy was present at the 'same time were returned as beriberi- Among the beriberi cases there were only two or three attended with œdema, and in one of them, effusion had already taken place in the chest and the patient died almost immediately. In two others, anasarca afterwards appeared, and one of them terminated in hydrothorax. The treatment, when there was only numbness, and loss of muscular power, was stimulant. Nux vomica was benefical, but neither in this disorder nor in paralysis does this remedy complete the cure. It advances the improvement only to a certain extent, and when the dose amounts to 60 or 70 grains of the nut, it produces so much disturbance of the functions of the stomach and bowels that it must be decreased or omitted; and in either case the patient gradually relapses."

" In the treatment of anasarca greater confidence can be placed in the use of treak-farook, than in any other remedy. The cures effected by it, are not only more speedy, but more permanent, and unattended with any unpleasant consequences. It is remarkable that while 43 cases of these two disorders occurred among the prisoners, only six or seven appeared in each of the two native corps, each being nearly double the numerical strength, and stationed on the same ground."

" The rapidity with which thoracic effusion occurs among the prisoners, from the appearance of the first decided symptoms, till its fatal termination, is very great, and if not checked, death follows generally in a few hours."

" Bleeding from the arm in a large stream until the patient faints or becomes faintish, with blisters to the chest and spine afford the only hope of success, if in time bleeding always gives relief; but there is not much confidence to be placed in it even when relief is obtained; for in too many instances,the difficulty of breathing and oppression in the chest occur; and when bleeding is required a second time there

is but little hope of recovery; in one instance only has recovery taken place after a second v. s. If however time is gained for the blisters and internal remedies to take effect, there is reason to hope for recovery; the medicines generally employed are tinct. of digitalis and squills, each 20 drops, in one ounce of camphor mixture, every two or three hours according to the emergency of the symptoms, and afterwards treak-farook; the qualities of this medicine are not confined to its cathartic effects—in some instances there is but little purging, though it may prove successful. If bleeding fails, no medicines will be of much use." *Dated* 31*st December* 1837.

"The number of deaths to the admissions has been high, especially when compared with the rate of mortality in military hospitals, but in the latter there are few if any deaths from age and infirmity, or diseases consequent thereon. On this account the rate of mortality among prisoners is always higher than amongst sepoys. To this cause more than the prevalence of disease may be imputed the present high rate of mortality, as more than half of those who died were advanced in years." *Dated* 31*st December* 1838.

With regard to the diseases amongst the native troops at this station the following table has been framed, for the purpose of exhibiting the most prevalent, and most fatal diseases, and the difference in these respects amongst the sepoys and prisoners.

No. 14.—*Table exhibiting the number of admissions and deaths amongst the Native Troops stationed at Masulipatam from* 1830 *to* 1840, *exclusive of* 1832.

CLASSES.	DISEASES.	Aggregate strength. 13,660. 1st Half. Ad.	1st Half. Dd.	2d Half. Ad.	2d Half. Dd.	Admissions and Deaths from each class of Diseases. 1st Half. Ad.	1st Half. Dd.	2d Half. Ad.	2d Half. Dd.	Total admissions from each class.	Total deaths from each class.	Per centage of sick to strength.	Per centage of deaths to sick treated.
Fevers......	Febris ephemera	567	4	1102	2	2720	36	4465	45	7185	81	52 ·598	1 ·127
	,, intermit quot.	1921	22	3052	38								
	,, tertiana	189	1	281	0								
	,, remittens.....	36	9	19	3								
	,, com: cout....	7	0	11	2								
	Cholera	5	3	8	3	5	3	8	3	13	6	0 ·095	46 ·15
Diseases of the abdominal viscera......	Diarrhœa	52	4	86	6	241	11	390	24	631	35	4 ·619	5 ·546
	Dysenteria......	46	5	101	15								
	Obstipatio......	108	1	134	1								
	Dyspepsia......	29	1	61	1								
	Hœmorrhois....	6	0	8	1								
	Hepatitis.......	4	1	3	0	4	1	3	0	7	1	0 ·051	14 ·285
Diseases of the Lungs	Catarrhus......	26	1	34	4	54	2	92	11	146	13	1 ·068	8 ·904
	Asthma	17	0	45	0								
	Phthisis pulmonalis..........	3	0	8	4								
	Pneumonia.....	7	1	3	1								
	Dyspnœa.......	1	0	2	2								
Diseases of the Brain.	Apoplexia.......	0	0	0	0	10	2	17	3	27	5	0 ·197	18 ·515
	Epilepsia.......	0	0	2	0								
	Paralysis........	6	0	10	2								
	Amentia,........	1	1	1	1								
	Mania...........	2	0	4	0								
	Tetanus........	1	1	0	0								
Eruptive fevers.	Variola.........	3	0	0	0	27	0	23	0	50	0	0 ·366	0 ·000
	Varicella.......	13	0	3	0								
	Rubeola.........	10	0	20	0								
	Erysipelas.......	1	0	0	0								
Dropsies....	Anasarca.......	11	3	32	4	13	5	39	5	52	10	0 ·380	19 ·230
	Ascites.........	2	2	7	1								
Rheumatic affections.	Rheumat acutus et chroncius..	410	3	469	8	410	3	469	8	879	11	6 ·434	1 ·257
Venereal affections..	Syphilis primitiva..........	103	0	109	0	170	0	159	0	329	0	2 ·408	0 ·00
	,, consecutiva.	8	0	7	0								
	Gonorrhœa.....	45	0	24	0								
	Hernia humoralis..........	9	0	18	0								
	Strictura urethræ.........	5	0	1	0								
Specific diseases.....	Dracunculus....	58	0	14	0	109	6	165	21	274	27	2 ·005	9 ·85
	Atrophia.......	17	1	31	4								
	Scorbutus.......	1	0	0	0								
	Scrophula......	7	0	7	0								
	Beriberi........	22	5	108	17								
	Elephantiasis...	3	0	1	0								
	Lepra..........	1	0	4	0								
Diseases of the eye...	Morbi oculorum	28	0	45	0	28	0	45	0	73	0	0 ·534	0 ·00
Do, ,, Skin.	,, Cutis......	369	0	425	1	369	0	425	1	794	1	5 ·812	0 ·125
	Other diseases..	805	4	910	4	805	4	910	4	*1715	8	12 ·554	0 ·465
	Total..	4965	73	7210	125	4965	73	7210	125	12175	198	89 ·128	1 ·6[illegible]

* Of this number were Phlogosis 787 and Ulcus 352 with 2 deaths.

Per centage of deaths to strength 1·419.

Effects of the climate of Masulipatam on European Troops.

The fort of Masulipatam having been unoccupied by European troops since 1833, and an unusual mortality having occurred in H. M. 62nd Regiment in that year, a special committee of medical officers was appointed to enquire into the causes thereof, and the substance of their report is given in the following remarks. *Dated 14th October* 1833.

"The 62d marched from Bangalore, on route to Masulipatam, on the 18th of February 1833, and continued healthy until after arriving at Chittoor, on the 1st March. The following day, a camp colour man who preceded the corps to the village of Keilgherry, was attacked with cholera, which disease continued to carry off numbers of victims daily, until the corps arrived at Woojelly near the coast, on the 13th March."

"From Chittoor to that place, a distance of about ninety miles, the disease manifested itself with the greatest severity—two officers, one hundred and forty six men, thirty women and eighteen children, having been attacked; of which number, one officer, thirty-two men, six women and twelve children died."

"The topographical features of the whole line of road, from Keilgherry to Woojelly, seem peculiarly favourable to the production of malaria, in as much as it runs between a high range of mountains, which are in many parts thickly clothed with jungle, encroaching so close on the road, that it has quite the appearance of a mountain pass. The villages on this line, are said to have been free from disease, when the regiment passed, but to have suffered from cholera, a short time previously.

"On the 13th April, the regiment arrived at Masulipatam, and was encamped on a part of the swamp, about a mile to the north-west of the fort, till the morning of the 16th of April, when the barracks were occupied."

"The fort is an irregular oblong square, of an average length of about one thousand yards, by seven hundred in breadth, the elevation above high water mark, being five feet. The height of the ramparts from the ground, on the sea face, is ten feet at the curtains, and fifteen at the bastions, the general width of the ditch, one hundred feet, and its average depth at high water, from four to five feet, but as it contains much mud and filth, if cleared out, it would be nine feet deep."

"The fort is encompassed on the north, east and west sides by the swamp; and on the south, by an inlet of the sea, the distance from which to the main gate, in a direct line is about one mile and a half. The general depth of the river opposite the fort, is from eight to nine feet, and the width at high water, about three hundred yards, but above the fort at spring tides, it expands into a swamp of several miles in extent, the soil being a slimy mud. The swamp—which is from a mile and a half, to two miles in breadth—consists of sand and mud, the sand being in greatest proportion on the western side. It is always more or less overflowed by the tide, but on some parts, there is considerable vegetation, and if the salt water was allowed to drain off, it is supposed that it would become covered with grass, to the fort gates."

"The area of the fort, contains one hundred and forty acres, about sixty nine of which is open ground, exclusive of the streets. The soil consists of clay and sand, the latter predominating, so that water soon runs off."

"The depth of wells is from about ten to twelve feet; the water is all brackish, being found to contain muriate of soda, with a little carbonate and sulphate of soda, amounting to from twenty to twenty-four grains in the pint."

"The native inhabitants it is supposed, amount to about seven thousand."

" All the drains are intended to empty themselves into the ditch, but some are at present quite choked up."

" The hospital and barracks, both for officers and soldiers, consist of three buildings, running north and south, and are situated centrally with reference to the width of the fort, but more towards its southern side."

" The whole are substantially built of brick and chunam, the floors raised one foot eight inches from the ground, and paved with coarse red sand stone. The roofs, with the exception of one half of the officers barracks,are terraced; the dimensions of the apartments, and their construction both in the hospital and barracks are similar, with this difference, that in the hospital range, there are but eight rooms—a space at each end, being left as a passage to the privies—while in each barrack range, there are ten rooms. The width outside is forty six feet, besides a verandah to each range twelve feet broad; the length of the barrack range, is one hundred and ninety five feet, its height thirteen and a half, and it is divided by cross walls, having arched doors in the centre; each room has four windows, except the end rooms, which have seven, of six feet four inches high, by four feet six inches in width, with iron bars to the street, and shutters folding inwards."

" The rooms in the hospital are capable of containing twelve patients each, those of the barrack, are intended for twenty men, or two hundred in each range; and making allowance for the sick in hospital, men on duty, and the married who reside outside, it is considered sufficient for the accommodation of 500 men."

" The hospital is partly shut in by the offices on the west side, having the main entry in the centre, and a wall of one hundred and ninety five feet in length, by ten high, on the east, meeting two others at right angles, on the north and south, by which the whole is enclosed."

" The hospital and eastern range of barracks, are separated

by a street of sixty feet wide, a street of similar width, running between the barracks and the officers range."

" The barracks are connected by a wall of one hundred and thirty feet long, by ten feet high, the whole forming an area of two thousand six hundred yards, on the south side of which, stand the kitchens and privies."

" The unusual and extreme heat of Masulipatam, in the year 1833, appears to have been occassioned by the wind blowing over the extensive tracts of dry and heated sand, situated to the north-west, and west of the fort."

" Masulipatam however has always the advantage of the sea breeze, which is denied to more inland situations."

" The annual fall of rain, as formerly mentioned, is about 35 inches."

" Mirage, is frequently seen here, and is liable to be mistaken for moist exhalations; it depends on the refrangibility of the rays of light, passing through strata of air of different densities, which bends them from the perpendicular, the heated air at the surface rising upwards, and mingling with the cooler atmosphere above."

" The general aspect of the *arrondissement*, would lead to the impression of its being a fertile source of malaria, but such is not the case, notwithstanding that sources of offensive effluvia are to be found, more particularly in the ditch of the fort, in parts where the water is shallow."

" The committee however, although disposed to question the existence of malaria, to the extent which the appearance of the more immediate vicinity of the fort might authorize, considered, that the intermittent fever which prevails at the drying up of the rains, originates in this source, and that dysentery, the prevalent disease of the wet season at Masulipatam, also derives its origin from malaria, modified or influenced, by the effect of heat and moisture."

" It would appear that dysentery occurs chiefly in the rainy season, commencing in June, and that the feverish season, is from the termination of the monsoon, until the drying up of the rains, or of the swamp ; from which time until their recommencement, is the most healthy period ; the fevers which prevail at the latter season being said to be ephemeral.—Apoplexy which is not infrequent during the hot wheather, is generally caused by unguarded exposure to the sun."

" Hepatitis is also a prevalent disease, during the hot weather, but cases are met with at all times."

" Rheumatism is most frequent during the rains, both Europeans and natives suffer alike from it; the latter also suffer from beriberi, and from dropsy, during the same season, though the climate is said, on the whole to be very favourable to them."

" The state of health of a company of European artillery, and of the Madras European regiment, stationed at Masulipatam, the former in the pettah, from 1st March 1831, to 31st August 1833, and the latter in the fort, from 1st July 1826, to 30th June 1832, is exhibited in the following table."

COMPANY OF ARTILLERY.

Average strength	105
do admissions to do per cent.	217
do deaths to admissions	$4\frac{3}{8}$
do do to strength do	$9\frac{1}{2}$

Average diseases and deaths for 12 months.

	Diseases.	Deaths.
Apoplexy,	1	1
Fever	9	0
Hepatitis	31	2
Rheumatism	6	0
Dysentery	26	3
Diarrhœa	12	0
Cholera	2	2
Other diseases	141	2

EUROPEAN REGIMENT.

Average strength	497
do admissions to do per cent.	$232\frac{3}{4}$
do deaths to admissions do.	$3\frac{1}{8}$
do do to strength do	$7\frac{1}{2}$

Average diseases and deaths for 12 months.

	Diseases,	Deaths.
Fever	$138\frac{1}{2}$	8
Hepatitis	69	$4\frac{5}{6}$
Rheumatism	$91\frac{5}{6}$	6
Dysentery	$108\frac{2}{3}$	$12\frac{1}{6}$
Diarrhœa	$60\frac{1}{3}$	$1\frac{1}{2}$
Cholera	$18\frac{1}{2}$	5
Apoplexy	$1\frac{5}{6}$	$1\frac{1}{6}$
Dropsy	$3\frac{5}{6}$	$\frac{5}{6}$
Other diseases	$622\frac{1}{2}$	$2\frac{1}{3}$

"The sickly condition in which the 62d regiment arrived at Masulipatam, has been already noticed, and an idea of the excessive degree of heat of the season, may best be conveyed in the words of those who experienced it."

"An old resident stated, that he did not recollect so trying a season for the last thirty years, and said the thermometer for about twenty days in succession, stood from 10 to 14 degrees higher than usual."

"Captain A——, who had been four years at Masulipatam, stated that the heat was greater than he ever experienced either here or elsewhere, and said that the Europeans, eight in number, attached to his department, all married men with families, suffered more than usual—one woman and several children having died—the woman from apoplexy."

"Captain S—— observed, that the hot winds were for a short time more intolerable, than in any other year, according to his experience, and lasted longer."

"Dr. T—— considered the heat to have been infinitely greater this season, than in any other of his residence, and stated, that the hot winds from the 20th May—the date of their commencement—until the 7th June, when a heavy shower fell, were almost intolerable; that several of the European residents were affected with giddiness, and that measures were necessary to avert the consequences of such dangerous threatenings. Two prisoners in jail died of apoplexy, during that time."

"But whether the heat at Masulipatam was greater than at other stations or not, seems unimportant; the 62nd arrived after an arduous and disastrous march, whereby a large proportion of the men were much enfeebled, the physical and moral powers of all, were overstrained, and many were labouring under despondency from the loss of wives, children or comardes; which circumstances predisposed them to suffer from the effects of climate."

" The total sick in hospital at the conclusion of last quarter, 31st March—amounted to fifty eight, of which number twenty nine were cases of cholera ; this disease continued to prevail, to the extent of from one, to five or six admissions daily, till the 26th April, when it ceased; and with the exception of one case on the 3rd, and two on the 10th May, no more occurred till the 19th of the same month, from that date, till the 22nd, ten cases were admitted; and five between the 27th and 29th May. On the 20th and 21st June, two cases occurred, in men labouring under dysentery in hospital, and there was one admitted from the barracks."

" Dysentery commenced on the 25th April, from which time, one, two, or three have been admitted daily; of continued fevers, from one to six were also admitted daily, since the 17th April; a great increase however took place, on the 21st May, thirty having been admitted on that day, on which the hot winds commenced; thirty seven on the 22nd, eighteen on the 23rd, and ten on the 24th."

" Apoplexy made its appearance on the 10th April, and eight cases occurred in three days: two were admitted on the 25th April; one on the 2nd May; two on the 9th; from the 20th to 24th May there were eleven cases; in all 24 admissions, and 8 deaths."

	Admissions.	*Deaths.*
Officers..	37......	0
Men....	.939......	26
Women.	.100......	9
Children.	141......	29

" From 16th April till October, the admissions and deaths in the regiment, were as per margin."

" The result of an inquiry, instituted for the purpose of ascertaining how far the constitution of the regiment, with reference to the number of elderly or infirm men, has added to the sickness, shewed this to have exerted but a very inconsiderable effect."

" Inquiry was also particularly directed to the supplies issued to the troops, which were found to be of the best quality; and the water for their use, brought from Goodoore distant about

six miles, is pure, and is always tasted before it is admitted into the barracks, to prevent imposition."

"The accommodation, as already observed, is ample, the barracks are intended for five hundred men, and were formerly occupied by that number of the European regiment, and more lately by H. M. 45th regiment, while the strength of the 62nd, amounted to but four hundred and eighty two, of which, besides the sick in hospital, there were sixty six married men who resided without the walls, and seventy three were employed daily, on garrison and regimental duty."

"After much deliberate consideration therefore, the great sickness which prevailed subsequent to the arrival of the regiment at Masulipatam, was chiefly attributed, to the trying and disastrous circumstances of the previous march, from which all, more or less suffered, together with the subsequent very sultry season; but from the well known prevalence of dysentery, from May or June, till October, it is believed, that had the regiment, not acclimated as it was, arrived under more favorable circumstances, it would not have escaped sickness; an opinion which derives confirmation, from the circumstance, that in seventeen men who *landed from Madras*, there were no fewer than twenty admissions from acute diseases, of whom four died; viz dysentery 2, diarrhœa 1, dropsy 1."

"The committee recommended, as the impurity of the water of the ditch was believed to contaminate the atmosphere, that the tide might be admitted, to flow into it daily, and the sluices to be regularly opened; but as the clearing out of the ditch, could not fail to be a source of discomfort, and might be prejudicial to health, they advised that the troops should be moved out during the operation; the estimated expense of which work, was forty thousand rupees."

"That the drains, several of which are at present choked up, be rendered efficient, and that cess-pools be constructed."

" That the kitchen and privies, in the barrack square, be removed."

" That when practicable, the natives be transferred from the fort, their habits being filthy, and their huts serving as receptacles for prostitutes."

" The committee did not concur in opinion with the Engineer officer, that the height of the ramparts did not interfere with the circulation of the air within the fort, for although ready to admit, that in most parts the elevation is inconsiderable; that there are many open spaces, and that the streets are wide; on the sea face, the want of a free circulation of air was considerably felt; and the hospital and barracks, also being of a rectangular form, are necessarily close and confined in some parts."

" The exterior of the fort, more particularly the west side, is a deposit for all kinds of filth, brought from the barracks, hospital and streets, which is thrown out almost under the walls; and the whole of that line is rendered most offensive, from its also being *resorted* to by the native population."

" Consideringthe prevalence and severity, of hepatic and dysenteric diseases at Masulipatam, during the hot and wet months, the committee suggested, that when practicable, the relief of corps should take place in the cold season, or towards the end of the year, in order that the men might in some measure, become acclimated before the more sickly months came round."

The following table exhibits the comparative healthiness of the station, from 1813 to 1833; and some observations by the Medical Board, on submitting it to Government, are annexed.

Years.	CORPS.	Number of months at the station.	Admitted. Cholera.	Dysentery.	Fever.	Hepatitis.	Other complaints.	Total admissons.	Died.	Average annual numerical strength.	Proportion of admissions to numerical strength.	Proportion of deaths to numerical strength.
											p. cent	p. cent
1813	*H. M.'s 86th Regiment..	For 3 months	0	67	110	7	182	366	6	783	46.7	0.7
1814	,, ,, ,,	,, 12 ,,	0	337	343	52	858	1590	64	802	198.2	7.9
1815	,, ,, ,,	,, 11 ,,	0	159	228	23	529	939	28	523	179.5	5.3
1816	,, ,, ,,	,, 12 ,,	3	134	127	63	578	905	26	427	211.9	6.0
1817	,, ,, ,,	,, 12 ,,	1	170	152	39	652	1014	24	628	161.4	3.8
1818	,, ,, ,,	,, 4 ,,	0	39	37	19	205	300	8	706	42.4	1.1
1819 1820 1821	No European Corps stationd at Masulipatam.											
1822	Madras European Regt...	For 10 months	50	107	245	37	548	987	52	834	118.3	6 2
1823	do. do.	,, 12 ,,	33	171	616	61	956	1837	56	1086	169.1	5.1
1824	do. do. / 2d European Regiment...	,, 3 ,, / ,, 2 ,,	11	46	182	27	337	603	16	782	77.1	2.0
1825	No European Corps stationed at Masulipatam.											
1826	†European Regiment....	For 6 months	1	21	80	18	144	264	10	293	90.1	3.4
1827	do. do.	,, 12 ,,	1	98	146	67	1107	1419	61	515	275.5	11.8
1828	do. do.	,, 12 ,,	0	62	165	53	1148	1428	50	551	259.1	9.0
1829	do. do.	,, 12 ,,	0	134	118	75	1094	1421	24	624	227.7	3.8
1830	‡Madras European Regt..	,, 9 ,,	43	107	87	46	373	656	35	400	164.0	8.7
1831	¶do. do.	,, 12 ,,	53	157	135	101	517	963	35	451	213.5	7.7
1832	do. Left Wing / and H. M.'s 45th Regt....	,, 9 ,, / ,, 2 ,,	10	73	119	30	666	898	11	421	213.3	2.6
1833	‖H. M.'s 62d Regiment..	For 9 months	118	281	359	61	518	1337	103	399	235.0	25.8

* The Europeans belonging to the garrison, including the detachment of artillery, are not introduced into this statement, the numerous sick occasionally received into the garrison hospital from other stations, or from regiments marching, greatly increasing the apparent proportion of deaths, to numerical strength.

† The regiment had returned from Ava where it had suffered severely from sickness during the war, and on the junction of recruits in March 1827, the whole corps was composed either of men of broken down constitutions, or of recruits, ever the chief victims of disease. Of the 61 deaths during the year, 51 occurred in the last 6 months.

‡ With the exception of cholera, of which 20 died, the regiment was free from any severe disease.

¶ 7 died of cholera.

‖ Few casualties occurred amongst the European troops at Masulipatam, during the year preceding the arrival of H. M.'s 62d regiment at that station. There were only two deaths in the hospital of the left wing Madras European regiment, during the first six months; in the remainder of the year, the wing was detached on foreign service, and after its return, proceeded in a few weeks, to Secunderabad. H. M.'s 45th regiment was but a short time at the station, and the numerous deaths which occurred, were for the most part from cholera, when the regiment was marching.

" The average annual proportion of deaths, to numerical strength, of all the European regiments serving under this presidency, for 7 years, from January 1813, to December 1819, was 5.690 per cent; and the average annual proportion of deaths to numerical strength, of the European regiments stationed at Masulipatam, from 1813, to 1832 inclusive, was 5.100 per cent."

" The rate of mortality having been somewhat lower, than throughout the rest of the presidency, for such a period, gives reason to conclude, that the station cannot be considered in ordinary circumstances, as unhealthy. As to the causes which have led to the extraordinary mortality in H. M.'s 62d regiment, from the period of its being stationed at Masulipatam, it is not necessary to enter into detail, the subject having been reported on at length, by the special committee, appointed for its investigation. The Medical Board have only to observe, that the period during which the sickness prevailed, was more unhealthy than usual, throughout the greater part of the presidency, that the violent epidemic cholera, from which the 62d suffered on the march, and after arriving at Masulipatam, predisposed the men to disease, and that the great drought, and intense heat, consequent on the failure of the rains, were also productive sources of disease, and on former occasions have been known to be followed by much sickness at this station."

" In a general report on the health of the European troops, dated 27th March 1809, the Medical Board observed, " At " Masulipatam, though considered an unhealthy station, from " its local situation, the averages of mortality, are lower than " at Fort St. George; fever however is the prevalent disease " at Masulipatam, though not the one from which most casu- " alties have occurred. Flux is the most fatal disease, as at all " other stations for European troops. The average of sick- " ness and casualties, is higher in 1808, than in 1807, from " what cause the Medical Board are at a loss to say, unless " from the previous droughts, by which the swamp in the

"vicinity of the fort, which it has been so much an object of go-
"vernment to prevent being flooded, may have been drier,
"than it was in 1808; the increase of deaths is principally
"from flux, which leads to the supposition, that intemperance
"may have been a great cause of it."

"In 1793, which was a year of famine and drought, a destructive fever prevailed at Masulipatam, which was more to be ascribed to the partial drying up of the muddy bed of the river, to the south and south-west of the fort, which was usually under water, than to the putrefaction of dead bodies, to which it was then attributed."

"The season of 1833, appears to have been very similar to that of 1793. Fever, and a fatal form of apoplexy, of the same character, having carried off a number of officers and men, on both occasions, viz. at Masulipatam, in May 1833; and at the neighbouring station of Ellore, in 1793."

ELLORE.

Town of Ellore. The populous town of Ellore, is situated about 50 miles north and by west of Masulipatam, and has occasionally been a station for a native corps, but at present is only occupied by a small detachment, and by recruiting parties for some native regiments.

The country around is open and flat for a considerable extent, the soil being principally black cotton ground; in the cantonment however, it consists of sand.

Cantonment. A small and shallow river, the bed of which is dry throughout the greater part of the year, divides the town into two portions; on the right bank of the river, is the remains of an old fort, distant about one mile and a half north-east from the barracks, and the cantonment hospital. On the opposite side are the officers houses, at the distance of a mile west of the barracks. No inconvenience has arisen from the river intervening, as it is at all times fordable. The sepoys

lines are well situated, dry and commodious, and the houses in the town are generally well constructed, and of a better description than those usually seen in Indian bazaars. There is much foliage around, from the streets and roads being usually planted on either side,—and there is likewise an extensive toddy tope in the vicinity, the cause of much drunkenness, besides which there are several extensive betel gardens, which though swampy, and obstructing free ventilation, are not considered to be prejudical to the health of the inhabitants.

Climate. The climate of Ellore does not differ very materially from that of Masulipatam, already described, though from being about 30 miles inland, it does not enjoy the benefit of the refreshing sea breeze;—and the nights in particular during the months of April and May, are extremely close and oppressive; the land wind likewise during May, blows with great violence, and the thermometer has been known to rise to 110° in the house, and to upwards of 120° in officers tents.

The following account of a visit to Mullavelly, one of the seven villages in this district, near to which *diamonds* are found, is extracted from the journal of Dr. Benza on a tour through the northern circars, in January 1835—taken from the "Madras Journal of Literature and Science."

"The road to Mullavelly, lies along a sandy plain, which, I am told, is swampy during the heavy rains. Approaching the village the plain is bestrewed with blocks and fragments of a very hard conglomerate sandstone, some pieces of which are of a purplish colour. There are also some large blocks of garnetic gneiss, in a state of decomposition; but the red sandstone abounds most, although rolled pieces of quartz, with a covering of a ferruginous clay, or carbonate of iron, together with the conglomerate sandstone, are scattered over the plain.

"The hollow flat, where the diamond pits are excavated, was a low swampy plain, at the season I visited them, the

lower part only containing some water; being surrounded by a bank, or rising of the soil, in a cirular manner, it has the appearance of having been once a lake. The banks are formed of the red ferruginous sandy soil, prevailing all round the place. Through this plain no river or rivulet flows, and the pools, in its lower part, dry up about the month of March, when the excavation may be commenced, and not before.

"The few hills I could see in the vicinity lie to the northward, not above two or three hundred feet above the plain, and were covered with underwood, interspersed with large trees. Some miles beyond these hillocks, runs another range loftier than the nearest ones, having however, the same direction.

"The diamond pits are in general excavated at the north end of the bank, that surrounds the hollow. Judging from some which were dry, the deepest could not be more than 12 feet; and I observed that, whatever their depth was, they never came to a hard mass of rock. The strata penetrated during the search for diamond, are, first, a gray, clayey, vegetable mould, about a foot or two thick; below this an alluvium, composed of the following pebbles, (not including the diamonds) which have evidently undergone attrition, their angles having been worn off; sandstone, similar to the one already described—quartz—siliceous iron-hornstone—carbonate of iron—felspar—conglomerate sandstone, and a prodigious quantity of kunkar, or concretionary limestone. Of this last mentioned rock, we must say a little more than of the others; the reason is obvious, namely, that the gem is the base of the acid in the calcarious stone.

"Besides the numerous pieces of this concretionary rock, scattered on the surface of the soil, and also intermixed in large quantities in the diamond alluvium, it forms regular strata, or veins we might call them, in a horizontal position both in the vegetable earth, and in the diamond alluvium, precisely like flints in chalk. Many of the pebbles of quartz

and hornstone, are not only varnished, as it were, with a ferruginous *enduit*, but it penetrates into their substance. This kunkar contains not a trace of quartz or any other mineral; and that in strata, in the vegetable soil, and in the diamond alluvium, is more friable than that exposed on the surface of the ground.

" It is in this alluvial detritus that the diamonds are found; my specimens were taken from a heap, on the brim of the last excavation, made five years ago. From this refuse, the head man told me, were obtained, as many small pieces of the gem, as might fill the hollow of the palm of the hand; no other excavation has taken place since.

" All the pits are of an irregular form; generally oblong; and said to be not more than ten feet deep; but this I could not ascertain, on account of the water, with which they were partly filled.

" The overseer who appeared an intelligent, obliging person, gave me the following information, in reply to my interrogatories; he always presides over the excavations, whether the pits are formed, or are worked on account of the Nizam. The diamond is never found imbedded, or, in any way, attached to any of the pebbles, with which they are invariably associated in this locality. They are always found loose, mixed with the other little stones. On my particularly pointing out the kunkar, he said the gem was never attached to that substance. On enquiring, which were the pebbles most constantly associated with it, and forming infallible indications of the existence of the diamond; he picked up from the heaps of detritus, the following pebbles—iron ore, hornstone and the kunkar.

" Notwithstanding the prodigious quantity of carbonate of lime in this locality, the water did not appear to contain any traces of it; and the inhabitants used even that collected in the pits.

"The detritus, forming the diamond stratum, must have proceeded from the hills north, the only ones near this place; being probably the continuation of the sandstone range, which extends easterly from Banganapilly, Condapilly and Mullavelly, in all of which localities the matrix of the diamond is a conglomerate sandstone."

COLLECTORATE OF RAJAHMUNDRY.

General description of the district.

Rajahmundry, an extensive, and for the most part a very fertile district of the northern circars, lies between the collectorates of Masulipatam on the south, and Vizagapatam on the north.—Its eastern and western boundaries being the bay of Bengal on the one side, and the range of eastern ghauts on the other. It comprises a surface of 6050 square miles, and has a population amounting to 5,33,836 souls. It is intersected by the river Godavery, which bifurcates, or divides into two branches, a short distance below Rajahmundry the chief town, and about 38 miles from the sea; the southern branch running into the bay of Bengal at Narsipore, and the northern one at Injeram.

Town of Rajahmundry.

The town of Rajahmundry is situated on the left, or northern bank of the river Godavery, in latitude 16°, 50″ north, and longitude 81°, 53″ east. It is built on somewhat elevated ground, and consists of one principal street, about half a mile in length, running nearly due north and south, in which is the chief bazaar. The houses on each side are generally of one story, built of mud, and tiled; from the principal street, there are several narrow lanes, running east and west; those to the west proceed to the bank of the river, in an oblique direction, and consist of mean houses built of mud and tiled, with here and there a large upstaired dwelling, the property of the zemindars of the district, and of some respectable inhabitants, who are principally brah-

mins.—The streets on the east side of the bazaar, are narrow and very irregular, consisting of houses of the same description, occupied by persons of various castes, but principally gentoos.

Population. The population of the town, is calculated at about from 15 to 20,000 souls, of these one fourth are brahmins, and the remainder gentoos, mussulmans and parriahs. The mussulmans form the smallest number, and are comparatively a poor race; numerous mosques however, are still standing, which show that formerly, they must have been both numerous and wealthy.

The distance from the sea by the river is 40 miles, but in a direct line only 28.

River Godavery. The Godavery at this part runs nearly north and south, having high banks on both sides, and is about a mile in breadth opposite to the town; during the south-west monsoon, it is generally filled from bank to bank, and is a beautiful expanse of water, running with great rapidity, and carrying down in its course, large quantities of mud, and *debris*, with numerous trunks of trees, &c. On the river overflowing its banks, depends the fertility of the lower part of the district, as it is the only way in which the country lying between the town and the mouths of the river, is watered; numerous small islands *or Lunkas*, are formed in its course, by the deposit left on the river subsiding; and as they are very valuable, from the quantity of tobacco of superior quality, which is grown on them, the proprietors of the ground on either side, are in the habit of planting a species of long grass, in the bed of the river, with a view to their formation, as the grass obstructs a quantity of the mud in its course, and shoots up immediately after the water subsides, thus obstructing a greater quantity of mud from year to year, until at length an island is formed. About two miles to the southward, the river divides into two branches, forming a rich delta.

During the north-east monsoon, the river dwindles to a small stream, generally fordable throughout, as far down as Cauvelasarapoorum, to which place the tides flow.

Soil. To the northward and southward of the town, the ground is low, and consists of black cotton soil, generally cultivated with paddy; to the east it rises somewhat, the soil being barren, sandy, and covered with a low stunted jungle, interspersed with topes of palmira trees.

Water. The inhabitants are generally supplied with water from the river, for all ordinary purposes, as that in the wells, of which there are but a few, is very brackish, and the several tanks in the vicinity of the town, frequently become dried up.

Food. The principal food of the people is rice, though when the crops fail, for want of rain, cholum and raggy, are much used.

Diseases. Fever prevails to a considerable extent during the hot season, or in the months of April and May; it is usually of the intermittent type, but is seldom followed by enlargement of the spleen; this disease is attributed by the natives to the use of the water, near the bank of the river, in the vicinity of the town, which becomes stagnant from the beginning of February, until the river comes down in June.

Beriberi. The disease next in prevalence to fever, is beriberi, which is usually endemic in this place.

Excessive indulgence in the use of opium and tobacco, is common amongst all classes, from the brahmin to the parriah, and by habit they become actual necessaries of life.

Prevailing winds. The prevailing wind during the months of January and February, is northerly, and occasionally from the east, towards the afternoon: in the month of March it is generally southerly, or south-easterly, the sea breeze being felt for a few hours in the afternoon, usually followed

by a calm. In April and May, the wind is either westerly or south-westerly, very hot, and loaded with fine sand; in June it again becomes more southerly, and is supposed to be influenced by the river coming down, for when the change occurs earlier or later, the river is expected to fill simultaneously, which generally happens about the middle of June. The wind continues southerly with little change, until October, when the north-east monsoon sets in, soon after which the river begins to subside, and from that time until March, the station is particularly healthy.

Fort and public buildings.

The fort is situated to the north of the town, and is in the form of a square, having high mud walls, and a ditch now partially filled up. It is usually garrisoned by two companies of the native regiment stationed at Samulcottah; the barracks, hospital, jail, magazine, and lines of the detachment, are within the fort. The barracks are situated in the south-east corner, and consist of one long mud building, with a tiled roof, and is only used as a place of arms; it is 83 feet long by 13 wide, and 7½ high, having three doors, and five small windows.

The hospital, close to the barrack, is a long narrow building, erected on slightly rising ground, immediately under the wall of the fort; it is open and airy—two large tamarind trees stand in the north-west corner, which are a great shelter to it during the rainy season.—It is 100 feet long by 13 broad, and 12 feet high, is built of mud, has a tiled roof, a verandah of 7½ feet wide on the west side, and a low narrow verandah on the east, or that looking towards the barracks. There is a small confined room in the rear, which is used as a surgery, and is about 10 feet by 8. The lines occupied by the detachment consist of four rows of thatched huts, immediately in front of the barracks, they are of a very inferior description, and placed in a confined space, but as the detachment is relieved every third month, the sepoys do not in consequence erect good houses, or care to make themselves more comfortable, as they must be considerable loosers

thereby. The barracks, hospital and lines, would be much improved, if the old fort walls were taken down. The magazine was formerly a small native temple, built of large slabs of black granite, and is well adapted to its present use.

Jail. The jail is a square building in the centre of the fort; it was first erected in 1806, and underwent little change until 1838, when two new cells were added, each 43 feet long, and 14½ wide, having five windows and two doors, the windows being 4 by 2½ feet. The wards are 13 feet high, and bombproof. The old jail contains an area of 228 feet, by 140, surrounded by a wall of 12 feet in height, within which, there are 14 wards or apartments, and a cookroom and guard rooms, for the sepoys, and peons on duty; each cell is 28 feet by 14, with walls 13¾ feet high—and has four windows and two doors. The windows are 4 feet from the floor, and measure 3 feet by 2—there are also several small slits or scuttles in the walls, thereby causing free ventilation. There are four other cells similar to those described, each 23¼ feet by 13¼, and 13 feet high, built on a level space, about 4 feet higher than the others, at the end of which, and under the same roof, are two small cells formerly appropriated for lunatics; on the same level, and on the north end, is a small ward formerly occupied as an hospital, with one door and two venetian windows, 19 feet by 9, and 14½ feet high. There is also another room of the same dimensions occupied by the female prisoners,—and a cell 15 feet by 12, with two venetian windows and two doors, for the confinement of civil prisoners.

The verandah allotted for the military guard and peons, is 83 feet long, and 9 feet broad. There are two large tanks near the jail, which are now useless from being out of repair.

The jail is calculated to hold about 400 men, allowing each 2¼ feet, and is built of the most substantial materials, the floor of each cell is flagged with large flat stones. The building is fire proof, there being no wood in its construction, except the doors and windows. The situation is well raised and dry.

Within the fort is the court-house, and also two small bungalows for European officers.

In the following tables are shewn the nature of the diseases and amount of mortality which have occurred amongst both classes of prisoners, during the period of ten years, from 1829 to 1838 inclusive; they also exhibit the diseases classified, and point out the per centage of sick to strength, and of deaths to sick treated.

Remarks on the tables.

The average annual numerical strength of the convicts has been 137, and the admissions into hospital 100; or 73·542 per cent; the average number of deaths yearly has been exactly 20, or 14·723 per cent on the strength.

Amongst the prisoners waiting for trial, from an aggregate strength of 817, not more than 428 admissions have taken place, being 52·386 per cent on the strength; while 116 deaths have occurred, being 14·198 per cent.

The most numerous admissions amongst both classes of prisoners, have been from *fevers, cholera, bowel complaints, eruptive fevers, anasarca, atrophy, and beriberi;* and the greatest mortality has been produced by the same diseases, as the table No. 17 will clearly shew. This table gives at one view the annual admissions and deaths from seven of the principal diseases, viz. fever, cholera, diarrhœa, dysentery, anasarca, atrophy and beriberi; the total sick treated and mortality each year are also exhibited, as in the corresponding table for the Masulipatam jail, for the purpose of shewing the great proportion of the whole mortality caused by these diseases; no less than 295 out of 318, or 13-14ths of the whole mortality.

JAIL OF RAJAHMUNDRY.

No. 15.—*Table exhibiting the number of admissions and deaths of the Convicted Prisoners, from each class of Diseases, for ten years.*

CLASSES.	DISEASES.	1829 to 1838. Aggregate strength. 1,372. 1st Half. Ad.	1st Half. Dd.	2d Half. Ad.	2d Half. Dd.	Admissions and Deaths from each class of Diseases. 1st Half. Ad.	1st Half. Dd.	2d Half. Ad.	2d Half. Dd.	Total admissions from each class.	Total deaths from each class.	Per centage of sick to strength.	Per centage of deaths to sick.
Fevers......	Febris int. quot.	114	6	148	7	123	6	158	11	281	17	20 ·481	6 ·049
	,, terliana	4	0	4	0								
	,, remittens.....	5	0	2	0								
	,, continua......	0	0	4	4								
	Cholera	13	7	6	4	13	7	6	4	19	11	1 ·384	57 ·891
Diseases of the abdominal viscera......	Diarrhœa	45	11	93	36	86	20	210	62	296	82	21 ·574	27 ·702
	Dysenteriaaeuta et chronica...	41	9	117	26								
	Hepatitis acuta et chronica...	0	0	6	0	0	0	6	0	6	0	0 ·437	0 ·000
Diseases of the Lungs	Catarrhus......	6	0	0	0	7	1	0	0	7	1	0 ·510	14 ·285
	Phthisis pulmonalis..........	1	1	0	0								
Diseases of the Brain.	Paralysis........	1	1	0	0	1	1	0	0	1	1	0 ·072	100 ·000
	Amentia,........	0	0	0	0								
Eruptive fevers......	Variola.........	12	1	18	3	41	1	21	3	62	4	4 ·518	6 ·451
	Varicella.	29	0	3	0								
Diopsy......	Anasarca.......	9	7	22	11	9	7	22	11	31	18	2 ·259	58 ·064
Rheumatic affections.	Rheumat acutus et chronicus..	21	3	18	1	21	3	18	1	39	4	2 ·842	10 ·256
Venereal affections ..	Syphilis primitiva..........	2	0	3	0	2	0	4	0	6	0	0 ·437	0 ·000
	Hernia humoralis...........	0	0	1	0								
Specific diseases.....	Atrophia........	35	18	92	36	47	21	111	40	158	61	11 ·516	38 ·607
	Beriberi........	12	3	19	4								
Diseases of the eye...	Morbi oculorum	3	0	2	0	3	0	2	0	5	0	0 ·364	0 ·000
Do, ,, Skin.	,, Cutis.....	4	0	3	0	4	0	3	0	7	0	0 ·510	0 ·000
	Other diseases..	28	1	63	2	28	1	63	2	91	3	6 ·632	3 ·296
	Total..	385	68	624	131	385	68	624	134	1009	202	73 ·542	20 ·019

JAIL OF RAJAHMUNDRY.

No. 16.—*Table exhibiting the number of Admissions and Deaths of the Prisoners under trial, from each class of diseases, for ten years.*

CLASSES.	DISEASES	1829 to 1838. Aggregate strength 817. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Admissions and Deaths from each class of Disease. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Total admissions from each class.	Total deaths from each class.	Per centage of sick to strength.	Per centage of deaths to sick.
Fevers......	Febris int. quot.	24	1	29	0	24	1	29	0	53	1	6 ·487	1 ·886
	Cholera........	10	4	28	18	10	4	28	18	38	22	4 ·651	57 ·894
Diseases of the Abdominal viscera.......	Diarrhœa......	20	11	17	4	63	25	46	17	109	42	13 ·341	38 ·532
	Dysenteria acuta et chronica	43	14	29	13								
	Catarrhus......	1	1	0	0	1	1	0	0	1	1	0 ·122	100 ·000
Eruptive fevers......	Variola.........	5	2	32	5	24	2	39	5	63	7	7 ·711	11 ·111
	Varicella.......	19	0	7	0								
Dropsy.....	Anasarca.......	7	5	8	3	7	5	8	3	15	8	1 ·835	53 ·333
	Rheumat acutus et chronicus..	5	0	1	0	5	0	1	0	6	0	0 ·734	0 ·000
Venereal affections....	Syphilis primitiva..........	5	0	5	0	5	0	6	0	11	0	1 ·346	0 ·000
	Hernia humoralis..........	0	0	1	0								
Specific diseases.....	Atrophia........	14	8	15	10	47	20	34	13	81	33	9 ·914	40 ·740
	Beriberi........	33	12	19	3								
	Morbi oculorum	1	0	1	0	1	0	1	0	2	0	0 ·244	0 ·000
	,, cutis....	0	0	1	0	0	0	1	0	1	0	0 ·122	0 ·000
	Other diseases..	32	0	16	2	32	0	16	2	48	2	5 ·875	4 ·172
	Total..	219	58	209	58	219	58	209	58	428	116	52 ·386	27 ·102

	Table No. 17 Jail of Rajahmundry.	1829.		1830.		1831.		1832.		1833.		1834.		1835.		1836.		1837.		1838.		Total.	
		Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.
Convicts.	Fever	23	1	27	1	10	1	11	3	26	1	82	6	21	3	13	0	31	0	37	1	281	17
	Cholera	0	0	0	0	0	0	16	9	3	2	0	0	0	0	0	0	0	0	0	0	19	11
	Diarrhœa	6	1	3	1	6	4	4	2	17	4	94	31	2	0	0	0	4	0	2	1	138	47
	Dysentery	3	1	7	0	5	3	13	2	27	10	66	15	6	0	5	3	19	1	7	0	158	35
	Anasarca	5	3	1	1	1	2	3	3	9	4	6	5	2	0	0	0	2	0	2	0	31	18
	Atrophia	2	2	1	1	2	0	4	3	9	6	98	36	5	4	3	1	0	0	3	1	127	54
	Beriberi	0	0	1	0	0	0	0	0	0	0	2	1	2	0	12	3	5	1	9	2	31	7
	Admissions and deaths from these diseases.	39	8	40	4	24	10	51	22	91	27	348	97	38	7	33	7	61	2	60	5	785	189
	Total admissions and deaths	43	8	72	8	41	11	67	23	179	31	375	98	50	9	40	7	70	2	72	5	1009	202
	Strength each year	126		145		96		127		272		269		116		76		73		72		1372	
Under Trial.	Fever	0	0	0	0	0	0	4	0	6	0	13	1	9	0	10	0	21	0	9	0	53	1
	Cholera	0	0	0	0	0	0	28	21	4	1	6	0	0	0	0	0	0	0	0	0	38	22
	Diarrhœa	0	0	2	1	0	0	2	1	10	8	21	5	1	0	0	0	1	0	0	0	37	15
	Dysentery	1	1	2	1	1	0	3	1	33	13	21	10	2	0	2	1	4	0	3	0	72	27
	Anasarca	0	0	0	0	0	0	0	0	3	1	9	6	1	1	2	0	0	0	0	0	15	8
	Atrophy	0	0	0	0	0	0	1	1	7	6	19	10	1	0	1	1	0	0	0	0	29	18
	Beriberi	0	0	0	0	0	0	0	0	0	0	1	0	5	1	29	9	5	1	12	4	5	15
	Admissions and deaths from these diseases.	1	1	4	2	1	0	38	24	63	29	90	32	19	2	44	11	12	1	24	4	296	106
	Total admissions and deaths	4	1	13	4	7	0	64	25	130	35	91	32	19	2	47	12	13	1	28	4	428	116
	Strength, each year	45		64		54		122		306		108		40		23		26		29		817	
	Admissions and deaths amongst both classes of prisoners	47	9	85	12	48	11	131	48	318	66	469	130	69	11	87	19	83	3	100	9	1437	318
	Total strength each year	171		209		150		249		578		377		156		99		99		101		2189	
	Per centage of deaths to strength	5·263		5·741		7·333		19·277		11·418		31·482		7·051		19·191		3·030		8·910		14·527	
	Per centage of sick to strength	27·485		40·669		32·000		52·610		55·017		124·668		44·230		87·878		83·838		99·009		65·646	
	Per centage of deaths to																						

No. 18.—*Table exhibiting the number of Admissions and Deaths amongst the Native Troops at Rajahmundry, from* 1829 *to* 1841 *inclusive.*

CLASSES.	DISEASES.	Aggregate strength 2,223. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Admissions & deaths from each class of diseases. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Total admissions from each class.	Total deaths from each class.	Per centage of sick to strength.	Per centage of deaths to sick.
Fevers.	Febris ephemera	0	0	1	0	109	2	150	11	259	13	11 ·650	5 ·019
	,, intermit quot.	102	1	124	6								
	,, tertiana	1	0	12	0								
	,, remittens	5	1	7	0								
	,, continua	1	0	6	5								
	Cholera	9	5	13	4	9	5	13	4	22	9	0 ·989	40 ·909
Bowel complaints	Diarrhœa	1	0	6	0	11	0	18	0	29	0	1 ·304	0· 000
	Dysenteria acuta et chronica	10	0	12	0								
Diseases of the Lungs	Catarrhus	2	0	7	0	4	0	12	0	16	0	0 ·719	0 ·000
	Asthma	2	0	4	0								
	Phthisis pulmonalis	0	0	1	0								
	Paralysis	1	0	0	0	1	0	0	0	1	0	0 ·041	0 ·000
Eruptive fevers	Variola	0	0	2	0	2	0	2	0	4	0	0 ·179	0 ·000
	Varicella	2	0	0	0								
Dropsies	Anasarca	2	0	7	1	3	1	8	1	11	2	0 ·494	18 ·181
	Ascites	1	1	1	0								
	Rheumatismus	46	0	42	0	46	0	42	0	88	0	3 ·958	0 ·000
Venereal affections	Syphilis primitiva	28	0	30	0	33	0	41	0	74	0	3 ·328	0 ·000
	,, consecutiva	0	0	1	0								
	Hernia humoralis	5	0	9	0								
	Strictura urethræ	0	0	1	0								
Specific diseases	Dracunculus	0	0	1	0	10	1	37	2	47	3	2 ·114	6 ·382
	Atrophia	1	0	5	0								
	Scorbutus	1	0	0	0								
	Scrophula	0	0	1	0								
	Beriberi	8	1	30	2								
Diseases of the eye	Morbi oculorum	1	0	7	0	1	0	7	0	8	0	0 ·359	0 ·000
Do. ,, Skin.	,, Cutis	12	0	4	0	12	0	4	0	16	0	0 ·719	0 ·000
	Other diseases	84	0	58	2	84	0	58	2	*142	2	6 ·387	1 ·408
	Total	325	9	392	20	325	9	392	20	717	29	32 ·253	4 ·041

* Of this number were Phlogosis 15, ulcus 37.
Per centage of deaths to strength 1·304.

General description.

Samulcottah, a town and military station in the Rajahmundry district, is situated in latitude 17°, 4″ north, and longitude 82°, 17″ east, being 404 miles in a north-east direction from Madras, and 28½ miles east of Rajahmundry.

The word *Cottah* means fort, *Samula* being that of a devotee from whom the place derived its name. Before Samulcottah was ceded to the East India Company by the Nizam in 1766, it was the residence of the ancestors of the present Rajah of Peddapore, and part of the palace which was converted into a dwelling house, is still standing. It was the original intention of government to have occupied the village of Peddapore, two miles distant to the westward, as a military station, but the idea was subsequently abandoned, Samulcottah having been found more convenient, and the Rajah was induced to change his place of abode to Pettapore a village about eight miles to the south-east. Samulcottah till 1835, had a fort of some strength, at which time, in consequence of the offensive state of the ditch, and the rank vegetation, completely obstructing the free circulation of air, it was levelled to the ground, and the ditch filled up.

Cantonment.

The cantonment is situated on the north-west side of the village, and contains an area of about three quarters of a mile in diameter; and both it and the village stands about 70 or 80 feet above the level of the sea, which is distant at one of the nearest points, Cocanada, about eight miles.

Roads.

The road to Cocanada passes through a cultivated plain forming almost a perfect level, and through which a small river runs to the sea.

Samulcottah is accessible on all sides, by pretty good roads; the great northern, or Madras road, from Rajahmundry, is of considerable width, and in good repair, and enters the cantonment on its western side. The other roads are neither so wide, nor so well adapted for wheeled carriages. To the north a good driving road, leads to a small village distant about one mile, called Rayumpettah.

Half a mile beyond the village of Peddapore, on the west of Samulcottah, is a small hill called Pandaoonla-metta, which consists of a rock about 100 feet in height, and the same in diameter, rising abruptly from the plain.

Eastern ghauts. To the northward of Samulcottah at the distance of 30 miles, run the line of hills, called the eastern ghauts, which rise to the height of 2000 feet. The names of the several ghauts or passes, are chiefly derived from those of the Rajahs who are in possession of them, but who may perhaps in some instances have originally taken theirs, from these natural objects.

These hills are extremely feverish, and almost uninhabitable by the natives of the coast; the people who live on them are a wild uncivilized race, and some mahomedans from thence, who have lately been met with in the plains, scarcely spoke a word of Hindoostanee, or were intelligible in their own language, so much had it become corrupted by intercourse with the aborigines; like other hill races, they are of moderate stature, but muscular and well formed.

There are no rivers or lakes of importance near Samulcottah, the river to the eastward of the cantonment, is a dry sandy bed, except in the monsoon, when it is full from bank to bank, though at all times fordable.

Tanks & Wells. There are but few tanks in the neighbourhood, and those which are met with are of a small size, and become entirely dried up in the hot season.

Wells are numerous, but there are only two in the cantonment, the water of which is drinkable, the others contain carbonate and muriate of lime, and also muriate of soda, some of them being even offensive to the smell. Water is usually found at a depth of from 30 to 40 feet below the surface.

Soil. The soil is alluvial, generally well adapted for both wet and dry cultivation, and is very productive.

At a depth varying from six to twenty feet, a bed of gravel is met with, of various thickness containing masses of lime stone, mixed with comminuted portions of quartz. There is no jungle or stagnant water in the neighbourhood and no noxious exhalations are supposed to arise from the soil.

Vegetable productions. The ordinary country vegetables and fruits, are produced in abundance, and most of the European vegetables found in India, likewise thrive well.

The Swietenia febrifuga is found in a compound, formerly the garden of the late Dr. Roxburgh; the trees are almost entirely denuded of their bark by the natives, who put much faith in its virtues as a remedy in fever.

Animals. The usual domestic animals, and cattle are abundant. Sheep do not attain a large size, but the mutton is usually good and cheap; good beef is not to be had, but poultry of all kinds are very abundant.

Foxes, hares and antelopes are found in great numbers around the cantonment, which is visited at night by numerous troops of jackalls, and occasionally by hyænas.

Minerals. Minerals do not occur in any considerable variety; strata of gravel and lime stone, as also quartz have already been mentioned. Slabs of gneiss of a dark gray colour traversed by veins of quartz, are seen in some houses, which it is believed have all been brought from near Rajahmundry.

Diseases. The inhabitants are generally very healthy, and many of them reach to an advanced age; and brahmins of nearly 80 years of age, in the perfect possession of their faculties, are to be met with. The principal endemic complaints are fevers, and ulcers;—large and deep ulcers of long duration have been seen, and the native practitioners it may be inferred, do not therefore possess much skill in the treatment of these complaints, which are found to yield readily to European remedies. As a consequence of severe or ill treated fever many persons from the more inland parts of the country, suffer

from diseased spleen and dropsy. Venereal disease exists to a great extent in the village, and secondary symptoms are common. Beriberi is an endemic disease of the place but the inhabitants are not so subject to it as the troops and many of the natives do not even know the name of the disease.

Barracks. The barracks or place of arms, situated at the south side of the cantonment, were erected about 1786, and are built of brick and chunam, the whole being under one tiled roof. At the western extremity is a small building used as a regimental store room, and about 200 yards to the south-west is a tank, the water of which is used by the sepoys, whose lines are a little further on, in the same direction. The barracks are built on hard, gravelly and elevated ground; the aspect of which has been judiciously selected, as the force of the north-east, and south-west monsoons, are broken upon the ends of the building.

The following are the dimensions of the barrack, height 8½ feet—length 162½ by 18½, with a verandah 7 feet 8 inches wide; it has 4 windows—and 6 doors. In front is an open space of ground, the original square of the fort, the sides of which are formed by the officers quarters; this piece of ground is large enough for manœuvering a regiment; on its western side is the powder magazine, a bomb-proof building.

The officers houses generally run in a north and south direction, and open to the full force of the monsoon; the doors and windows of which must be kept constantly shut on the side from which the monsoon blows. From being exposed likewise to the glare and heat of the rising and setting sun, as well as for the other reasons stated, this is evidently an injudicious arrangement in a tropical country.

There are fourteen houses for the officers, and a mess house, of these nine are the private property of the occupants.

They are generally of an inferior description and badly built, the usual material being mud walls, with grass for the roofs. There is only one tiled dwelling in the cantonment;

and house rent is exceedingly moderate, 15 Rupees per mensem being the average monthly charge.

Sepoys lines. The sepoys lines are to the westward of the officers quarters, the ground gradually rising towards them, and a little beyond their limits, it attains to a height of 128 feet above the cantonment; from whence there is an open plain for some distance. Towards the eastward, the side of the cantonment in which the hospital is situated, the ground falls considerably, so that this building is in the lowest and most objectionable situation.

Hospital. The hospital was erected about the year 1786, runs east and west, and is built of burnt brick and chunam, having a tiled roof. The ground from the front of the barrack, slopes gradually to its eastern angle, and in wet weather the whole of the rain water from the square, sweeps towards it; it is moreover rather close to the officers quarters, and too distant from the mens lines and barracks. It contains only one ward for patients, and a surgery. The following are the dimensions, height 8½ feet, length 56, and breadth, 16; it has 6 windows and 2 doors; the surgery is 14½ long, 16 broad and 8½ feet high, and has one door and a window.

The building can accommodate 30 patients, and notwithstanding its being so badly situated, none of the sick have ever laboured under any disease, which could be attributed to the locality. About 150 yards to the north, stands a solitary cell, having two rooms, each for one prisoner.

The parade ground is to the north of the regimental lines and only divided from them by a road; it is open, has a gentle slope and is well adapted for the purpose, being sufficiently near both to the barracks and the officers quarters.

The following table shews the nature and amount of diseases, and the mortality which have occurred amongst the native troops during a period of ten years, from 1831 to 1841, exclusive of 1832.

. 19.—*Table exhibiting the number of admissions and deaths amongst native Troops at Samulcottah, from* 1831 *to* 1841, *exclusive of* 1832.

CLASSES.	DISEASES.	Aggregate strength 7613. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Admissions and Deaths from each class of Diseases. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Total admissions from each class.	Total deaths from each class.	Per centage of sick to strength.	Per centage of deaths to sick treated.
	Febris ephemera	57	0	71	0								
	,, intermit quot.	560	7	494	5								
…ers......	,, tertiana	10	0	15	0	681	11	617	11	1298	22	17 ·049	16 ·949
	,, remittens.....	45	2	19	1								
	,, com. cont....	9	2	18	5								
	Cholera	13	4	13	5	13	4	13	5	26	9	0 ·341	34 ·615
…eases of	Diarrhœa	33	2	56	1								
…e abdo-	Dysenteria......	26	2	39	4								
…inal vis-	Obstipatio......	13	0	12	0	80	5	121	5	201	10	2 ·610	4 ·975
…era......	Dyspepsia......	7	1	12	0								
	Hœmorrhois.....	1	0	2	0								
	Hepatitis.......	2	0	1	2	2	0	1	2	3	2	0 ·039	66 ·666
	Catarrhus......	7	0	19	1								
	Asthma.........	8	2	11	0								
…eases of the Lungs	Phthisis pulmonalis..........	0	0	4	3	20	2	38	4	58	6	0 ·761	10 ·344
	Pneumonia.....	3	0	0	0								
	Dyspnœa	2	0	4	0								
	Apoplexia......	1	1	1	1								
	Epilepsia.......	1	0	0	0								
…eases of the Brain.	Paralysis........	1	0	3	0	11	2	12	1	23	3	0 ·302	13 ·043
	Amentia,.......	4	1	2	0								
	Mania..	4	0	6	0								
	Variola.........	21	2	9	1								
…ptive fe-	Varicella.	22	0	4	0	50	3	34	1	84	4	1 ·103	4 ·761
…ers......	Rubeola........	7	1	20	0								
	Erysipelas......	0	0	1	0								
…opsies. ..	Anasarca.......	5	1	6	0	7	2	9	1	16	3	0 ·210	18 ·750
	Ascites.........	2	1	3	1								
	Rheumatismus..	217	1	239	1	217	1	239	1	456	2	5 ·989	0 ·438
	Syphilis primitiva..........	109	0	91	1								
	,, consecutiva ..	3	0	7	0								
…nereal af-	Gonorrhœa.....	20	0	21	0	143	0	143	1	286	1	3 ·756	0 ·349
…ections ..	Hernia humoralis............	10	0	23	0								
	Strictura urethræ..........	1	0	1	0								
	Dracunculus....	1	0	4	0								
	Atrophia........	3	1	14	1								
…cific dis-	Scrophula......	3	0	5	0	29	2	92	11	121	13	1 ·589	10 ·743
…eases.....	Beriberi........	21	1	68	10								
	Lepra..........	1	0	1	0								
…eases of the eye...	Morbi oculorum	19	0	35	0	19	0	35	0	54	0	0 ·709	0 ·000
,, Skin.	,, Cutis......	198	0	138	0	198	0	138	0	336	0	4 ·413	0 ·000
	Other diseases..	466	0	495	3	466	0	495	3	*961	3	12 ·642	0 ·312
	Total..	1936	32	1987	46	1936	32	1987	46	3923	78	51 ·530	1 ·983

* Of this number were Phlogosis 318.
,, ,, Ulcus...144 and 1 death.
Per centage of deaths to strengh 1·024.

VIZAGAPATAM.

General description of the district.

The district or Collectorate so called, extends along the coast between 17° 10″, and 18°30″ of north latitude; and 84° 10′, and 82° 30″ of east longitude; being bounded on the east by the bay of Bengal, on the west by the eastern ghauts, at an average distance of from 30 to 40 miles from the sea; and on the south and north, by the districts of Rajahmundry and Ganjam respectively.

The general appearance of the country differs considerably from the southern portion of the division, being irregularly mountainous and hilly, the coast for the most part, being a bold and rocky shore; the hills in some places, as at the Dolphin's nose, to the south of Vizagapatam, over-hanging the sea.

The hills lying to the westward of Vizagapatam which approach to within three or four miles of the town, extend far into the district, towards the Hyderabad territory; and those to the southward, to a distance of about 30 miles, where the country becomes flat and continues so, as far as the Rajahmundry district. The hills, many of which are from 1500 to 2000 feet in height, are generally clothed with low jungle to their summits; extensive, fertile and highly cultivated valleys, lying between them, in which are grown rice, and a variety of dry grains.

Population.

The district comprises an area of 15,300 square miles, with a population amounting to 1,047,414 souls.

Rivers and lakes.

The rivers and lakes are not of great extent, or importance. The river Pundavoo takes its rise in Golcondah, and enters the sea after a course of about 33

miles, near the village of Wootadah. The Sharadah, rises in the hills west of the Vizianagrum district, and runs south-east towards Wootadah, where it also enters the sea, after a devious course of nearly 70 miles. The Goostunny river also takes its rise in the hills west of Vizianagrum, and runs east to Bimlipatam, where it joins the sea. The Chinpavuttah rises in the north-west of the district, and runs eastward to the sea at Conadah. The river Langlah also rises in the hills, in the north-west by three separate heads, which unite a few miles west of Polcondah, close by which village it runs, and joins the sea at the north-east corner of the Collectorate, at the village of Dhurmaveram. Tanks are numerous, but there are only two lakes of any considerable extent; one near to Konda-churlah, of about two miles, and another near Benavoolo of three mlles in circumference. There is likewise a marsh of several miles in extent, south of the village Wontemaumdee, running parallel with the coast, which as well as the lakes, abound with great varieties of water-fowl.

Climate. The climate is considered salubrious, and Vizagapatam was formerly much resorted to by visitors, from inland stations during the hot months, but to persons long resident there, the climate is found to be very relaxing, the air being soft and the prevailing winds generally, either the along-shore, or south-east wind, or the easterly ; it may be added, that land winds are almost unknown, particularly during the day; being intercepted by the neighbouring hills.

Months.	Average height of Thermometer	Average height of Barometer.	Remarks.
January........	70° 0'	30° 0'	The temperature is at the lowest about the 10th, the wind being generally from the north-east, veering towards the east and south-east. The Minimum of the thermometer is 66° Heavy dews, weather serene, rain and lightning, almost unknown.
February.......	73° 0'	30° 1'	Not so cold as January though pleasant. Heavy dews, and occasional fogs throughout the month, the sky very clear, norain or lightning, wind north-east, with frequent changes to the south-east.
March..........	79° 0'	30° 0'	The along-shore or south-east wind sets in during this month, and renders the air damp and sultry. Sky continues clear, little or no dew.
April	83° 0'	30° 0'	Wind towards the end of the month changes to the south-west, and blows with considerable violence. Dew and rain are almost unknown.
May...........	87° 0'	29° 9'	The south-west wind continues, with heavy gusts, throughout the month. Land winds blow for about three days in the month, and usually alternate with the sea breeze.
June...........	87° 0'	29' 8'	The south-west rains begin to set in about the first week and become more frequent towards the end of the month, and the sky is generally cloudy.
July............	82° 0'	29° 9'	Rain more abundant than in last month. Wind from the same direction. Large masses of flying clouds seen in every direction. No sea breeze. Lightning and thunder occasionally.
August.........	82° 0'	29° 9'	Wind more westerly, and the rains are heavier. Thunder and lightning occur more frequently. The heat is much reduced, but the calms peculiar to this month, are very oppressive. Continues cloudy.
September......	80° 0'	29° 9'	The wind, rain and appearance of the weather, continue the same as in August, until about the 15th, when the north east rains set in partially, and become heavy towards the end of the month, thunder and lightning are frequent; oppressive calms still occur.
October........	79° 0'	30° 0'	The north-east rains continue with great force throughout this month. The wind blows very fresh, sometimes amounting to a gale, and veering in every direction. Thunder and lightning occur frequently. The clouds assume a heavy appearance, becomes cool towards the end of the month.
November......	77° 0'	30° 1'	The rains cease about the middle of this month. Thunder and lightning seldom occur. The sky assumes a clear and serene appearance, and the weather becomes pleasant.
December......	73° 0'	30° 1'	The wind still from the north-east and east. The sky has a clear and tranquil aspect. Rain and lightning are seldom known, but towards the latter end of the mouth heavy clouds are often seen.

Vegetable Products.

The products of the district, are principally rice and dry grain which are exported in large quantities to several parts of the coast, much of the rice being also sent to the Mauritius. Arrow root and a dye called Vapuntagoondah, grow wild on the hills, in great abundance.

Manufactures and trades.

The manufactures are chiefly punjums, and coarse cotton cloths—and from the latter, tents of

REFERENCE

a. Arsenal.
b. Zillah Court House.
c. Pay Office.
d. Magazine.

e. Arrack Godown
f. Solitary Cells
g. Proposed Barrack.
h. European do.
i. Congee House.

l. Store Room.
n. New Hospital.
o. European Veteran Families.
p.p. Guard Rooms.
q. Native Infantry Lines.

of a superior description are made ; the export trade in cloth has however of late years fallen much into decay, from the produce being undersold by cloth from the English market. Indigo to a small extent is also manufactured.

Vizagapatam has long been celebrated throughout India for its manufactures, in silver, ivory, and buffaloe-horn ; ornamental boxes, jewellery and other articles in great variety, being made up in considerable quantities.

Numbers of cooly emigrants to the Mauritius have lately been furnished from this district, and it has long been famed for its hardy race of palanquin bearers, from whence all parts of the presidency are chiefly supplied with these useful servants.

The only Military stations in the collectorate are, Vizagapatam, the residence of the principal civil and military authorities, and Vizianagrum ; which is usually occupied by one, and occasionally by two native regiments, with a detachment of Golundauze or native foot artillery.

Description of the station and Town.

The station of Vizagapatam is situated on the coast, in north latitude 17° 41″, and east longtitude 83° 42″, in a small bay, the southern extremity of which is bounded by a remarkable hill, several hundred feet in height, called the "Dolphin's nose ;" and its northern extremity by the village of Waltair ; the breadth a cross the bay being about six miles; see plan annexed.

Fort.

The station consists of a fort, lying in the south-western part of the bay, being separated from the Dolphin's nose by a small river, which forms a bar, where it enters the sea, but is passable for vessels of from 150 to 200 tons burden, during spring tides. Within the fort are the barracks for the European invalid soldiers, the arsenal, the officers quarters, and various public buildings. The works are at present much out of repair, the rampart on the eastern face being partly undermined by the sea, during the violence

of the north-east monsoon. Immediately outside the fort gate, and in an open space from near to which the pettah commences, is the garrison and European veteran company hospital, an upstair building, which is in every respect well adapted for the accommodation of the sick.

Native town. The native town, immediately adjoins the fort on its north and west sides. It contains many good streets, and numerous well built houses; but is much crowded, from the space on which it stands being shut in by a range of sand hills, between it and the sea on the one side, and an extensive swamp on the other. Beyond the limits of the Regimental lines. town, are the lines of the native regiment stationed here, and further on in a north-easterly direction, the suburb called Waltair, extending about three miles along the coast. In this direction most of the military officers, including the General commanding the division, and staff, and all the civil officers of the station, reside. An excellent carriage road runs from the extreme end of Waltair to the fort, a distance of about four miles. The northern or Waltair side of the cantonment, is elevated considerably above the town, and is consequently thought to be cooler, and there being no space allotted for the houses of the officers of the native regiment, they are consequently much dispersed over the vicinity.

The parade ground on the right of the sepoys lines, is a square piece of ground, on one side of which are the barracks and native hospital. It is bounded on the south by the swamp before mentioned, about nine miles in circumference, and which from having a free communication with the sea is inundated at every tide, thereby preventing offensive effluvia to any great extent. On the north side it is bounded by extensive plantain gardens, in rear of the barracks and hospital, which are considered unhealthy, from the foliage being so thick as to obstruct the free circulation of air; the east side, is partly bounded by the road leading to the town, and partly by a large tank, which contains water throughout

the year; on the west is the village of Ullipooram, the *dhobies* washing ground, and the principal burning ground, or that used by the natives for the purpose of cremation.

Soil. The soil in the immediate vicinity of the station, on the higher ground, is barren, and principally composed of a reddish gravel, with here and there large slabs of a very hard description of gray granite, but in lower situations, it is a rich, and productive loam.

Barracks and hospital. The barracks and hospital are both situated on the same line, at the upper part of the parade ground, the former in the centre, and the latter 53 yards to the right. The barracks contain four apartments, one of which is appropriated for the regimental stores, one as the government treasury, and the other two, as places of arms.

The hospital consists of one long ward, surrounded on three sides by an elevated open verandah ten feet broad, the fourth being partitioned off for a surgery. The ward is 101 feet in length by 14½ in breadth, it has six doors and ten windows; there are also two small ventilators at the right end, placed near the roof, which is sloping and tiled. The hospital is capable of containing about 50 patients; and when the accommodation is insufficient for the sick, tents are usually pitched for their use.

Jail. The jail, first occupied as such in 1832, was formerly a Dutch factory; it is situated within the fort in a very confined site. Some time ago (in 1839) an upper story was added for the accommodation of the court, and the ground floor is now used exclusively as the jail. There is a small court on the north-west side, with a row of what must have originally been godowns, but which have been converted into two cells, one for female prisoners, the other is used as the hospital. The dimensions of the cells in the body of the building and under the court house are as follows, one 56 feet by 33, with four windows, two 22 feet by 16, each with one window, and one 32 feet by 22, with two windows. The

ventilation in all these apartments is insufficient. The dimensions of the female cell and hospital are 20 feet by 16, and 18 feet by 16 respectively, and the ventilation is equally faulty as in the jail.

The diet clothing, hours of labour and nature of work are given in the general statement annexed to the report of this division.

Tables No. 20 and 21, shew the nature and amount of disease and mortality which have occured amongst the inmates from (1833, the period when first occupied) to 1841 inclusive; by which it will be seen that the mortality has been less than in any of the other jails in this division. Amongst the convicts, from an aggregate strength of 1143, the admissions amount to 1109, with only 44 deaths; or 27·025 and 3·486, respectively, per cent to the strength; while amongst those waiting for trial only 207 admissions with 21 deaths have occurred from an aggregate strength of 433, the per centage of admissions to strength being 47·916, and of deaths 4·861.

JAIL OF VIZAGAPATAM.

?0.—*Table exhibiting the number of Admissions and Deaths* *ngst the convicted Prisoners, for a period of nine years, from* 1833 *to* 1841 *inclusive.*

ıSSES.	DISEASES.	Aggregate strength 1143. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Admissions and Deaths from each class of Disease. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Total admissions from each class.	Total deaths from each class.	Per centage of sick to strength.	Per centage of deaths to sick treated.
ı......	Febris ephemera	66	2	72	1	102	5	178	2	280	7	24 ·496	2 ·500
	,, int. quot..	34	1	105	0								
	,, remittens..	1	1	1	1								
	,, com. cont.	1	1	0	0								
	Cholera........	1	0	9	3	1	0	9	3	10	3	0 ·874	30 ·000
ses of Abdo-al vis-.......	Diarrhœa......	15	3	28	3	37	6	66	9	103	15	9 .011	14 ·563
	Dysenteria.	18	2	30	6								
	Dyspepsia......	4	1	8	0								
ses of Lungs	Catarrhus......	2	0	3	1	7	2	7	1	14	3	1 ·224	21 ·428
	Asthma........	4	2	4	0								
	Pneumonia.....	1	0	0	0								
of the in.....	Epilepsia.... ..	0	0	1	0	1	0	2	0	3	0	0 ·262	0 ·000
	Paralysis.	1	0	1	0								
ive fe-ı......	Variola.........	0	1	11	1	42	1	12	1	54	2	4 ·721	3 ·703
	Varicella.	42	0	1	0								
	Anasarca.......	1	2	4	1	1	2	4	1	5	3	0 ·437	60 ·000
	Rheumatismus..	34	1	30	1	34	1	30	1	64	2	5 ·599	3 ·125
real af-tions..	Syphilis prim..	4	0	4	0	6	0	10	0	16	0	1 ·399	0 ·000
	,, Consecutiva	1	0	1	0								
	Gonorrhœa.. ..	0	0	2	0								
	Hernia humor..	1	0	2	0								
	Strictura urethrae.........	0	0	1	0								
ific dis-ıes.....	Atrophia........	4	1	1	1	8	2	7	4	15	6	1 ·312	40 ·000
	Scrophula......	1	0	1	0								
	Beriberi........	3	1	5	3								
ases of ? eye...	Morbi oculorum	6	0	11	0	6	0	11	0	17	0	1 ·487	0 ·000
). ,, Skin	,, cutis....	45	1	47	0	45	1	47	0	92	1	8 ·048	1 ·086
	Other diseases..	205	1	231	1	205	1	231	1	*436	2	38 ·145	0 ·458
	Total..	495	21	614	23	495	21	614	23	1109	44	97 ·025	3 ·967

* Of this number were Phlogosis.... 100
,, ,, Ulcus........ 67
,, ,, Punitio...... 150

Total.. 317

Per centage of deaths to strength.. 3·596

JAIL OF VIZAGAPATAM.

No. 21.—*Table exhibiting the number of Admissions and Deaths amongst the Prisoners, under trial, for nine years, from* 1833 *to* 1841 *inclusive.*

Classes.	Diseases.	Aggregate strength 432. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Admissions and Deaths from each class of Diseases. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Total admissions from each class.	Total deaths from each class.	Per centage of sick to strength.	Per centage of deaths to sick treated.
Fevers......	Febris ephemera	12	1	14	0	16	2	17	0	33	2	7 ·638	6 ·060
	,, intermit quot.	3	0	0	0								
	,, remittens.....	0	0	3	0								
	,, com. cont.....	1	1	0	0								
	Cholera....	3	2	0	0	3	2	0	0	3	2	0 ·694	66 ·666
Diseases of the abdominal viscera......	Diarrhœa.......	7	0	2	1	13	1	7	3	20	4	4 ·629	20 ·000
	Dysenteria......	4	1	5	2								
	Hœmorrhois....	1	0	0	0								
	Dyspepsia......	1	0	0	0								
Diseases of the Lungs	Asthma........	0	0	1	0	0	0	2	1	2	1	0 ·462	50 ·000
	Phthisis pulmonallis.........	0	0	1	1								
Diseases of the Brain.	Paralysis.......	0	0	1	1	2	0	4	1	6	1	1 ·388	16 ·666
	Amentia........	2	0	3	0								
Eruptive fever.......	Variola.........	1	1	3	1	19	1	6	1	25	2	5 ·787	8 ·000
	Varicella.......	18	0	3	0								
	Anasarca.......	0	0	1	1	0	0	1	1	1	1	0 ·231	100 ·000
	Rheumatismus..	3	0	5	0	3	0	5	0	8	0	1 ·851	0 ·000
	Syphillis primitiva.........	2	0	1	0	2	0	1	0	3	0	0 ·694	0 ·000
Specific diseases.....	Atrophia........	8	1	3	2	9	1	9	6	18	7	4 ·166	38 ·888
	Beriberi........	1	0	6	4								
Diseases of the Skin..	Morbi cutis....	26	0	18	0	26	0	18	0	44	0	10 ·185	0 ·000
	Other diseases..	25	0	19	1	25	0	19	1	*44	1	10 ·185	2 ·272
	Total..	118	7	89	14	118	7	89	14	207	21	47 ·916	10 ·144

* Of this number were Phlogosis 3.
,, ,, ,, Ulcus... 17 and 1 death.
Per centage of deaths to strength 4·861.

No. 22.—*Table exhibiting the number of Admissions and Deaths mongst the Native Troops at Vizagapatam, from* 1829 *to* 1841; *xclusive of the* 1st *half yearly period of* 1831, 1832, *and* 1841, *and the* 2d *half year of* 1831.

CLASSES.	DISEASES.	Aggregate strength 7320. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Admissions & deaths from each class of disease. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Total admissions from each class.	Total deaths from each class.	Per centage of sick to strength.	Per centage of deaths to sick treated.
	Febris ephemera	101	0	356	2								
	,, intermit quot.	218	6	614	6								
evers.	,, tertiana.......	12	0	46	0	357	7	1065	9	1422	16	19 ·426	1 ·125
	,, remittens.. ...	5	1	3	0								
	,, com. cont....	21	0	46	1								
	Cholera........	19	12	22	10	19	12	22	10	41	22	0 ·560	53 ·658
	Diarrhœa......	19	0	33	0								
seases of	Dysenteria......	25	4	50	5								
the Abdo-	Obstipatio......	8	1	11	0	69	5	134	5	203	10	2 ·773	4 ·926
minal vis-	Dyspepsia......	17	0	37	0								
cera......	Splenitis.........	0	0	3	0								
	Hepatitis.......	7	1	3	1	7	1	3	1	10	2	0 ·136	20 ·000
	Catarrhus......	28	0	19	1								
	Asthma........	9	0	19	2								
seases of the Lungs	Phthisis pulmonalis.........	1	0	1	1	48	2	70	5	118	7	1 ·612	5 ·932
	Pneumonia.....	3	1	6	1								
	Dyspnœa.......	7	1	25	0								
	Apoplexia......	1	1	5	2								
	Epilepsia.......	2	0	1	0								
	Paralysis.......	3	2	7	0								
eases of he Brain.	Amentia........	1	0	0	0	10	5	26	4	36	9	0 ·491	25 ·000
	Mania..........	2	1	10	0								
	Tetanus........	1	1	2	1								
	Hydrophobia....	0	0	1	1								
ptive fe-	Variola.........	4	0	4	0								
rs......	Varicella.......	30	0	7	0	35	0	12	0	47	0	0 ·642	0 ·000
	Rubeola........	1	0	1	0								
opsies...	Anasarca.......	7	2	4	4	10	4	6	6	16	10	0 ·218	62 ·500
	Ascites.........	3	2	2	2								
	Rheumatismus..	179	2	277	2	179	2	277	2	456	4	6 ·229	0 ·877
	Syphilis primitiva..........	83	0	109	1								
	,, consecutiva..	9	0	5	1								
reral af-	Gonorrhœa.....	30	0	34	0	148	0	177	2	325	2	4 ·439	0 ·615
tions...	Hernia humoralis..........	21	0	25	0								
	Strictura urethræ..........	5	0	4	0								
	Dracunculus....	3	0	1	0								
	Atrophia.......	17	0	8	2								
ific dis-	Scorbutus......	0	0	2	0								
es.....	Scrophula......	4	0	1	0	30	1	28	7	58	8	0 ·792	13 ·793
	Beriberi........	5	1	16	5								
	Lepra..........	1	0	0	0								
es of eye...	Morbi oculorum	19	0	74	0	19	0	74	0	93	0	1 ·270	0 ·000
Skin.	,, Cutis......	176	0	191	0	176	0	191	0	367	0	5 ·013	0 ·000
	Other diseases..	329	1	570	6	329	1	570	6	*899	7	12 ·281	0 ·778
	Total..	1436	40	2655	57	1436	40	2655	57	4091	97	55 ·887	2 ·371

* Of this number were Phlogosis 240 and 1 death.
,, ,, Ulcus...317
Per centage of deaths to strength 1·325.

No. 23.—*Table exhibiting the number of admissions and deaths amongst the Veteran in the Carnatic European Veteran Battalion from* 1829 *to* 1841 *inclusive.—Stationed at Vizagapatam.*

CLASSES.	DISEASES.	Aggregate strength 2937. 1st Half. Ad.	1st Half. Dd.	2d Half. Ad.	2d Half. Dd.	Admissions and Deaths from each class of Disease. 1st Half. Ad.	1st Half. Dd.	2d Half. Ad.	2d Half. Dd.	Total admissions from each class.	Total deaths from each class.	Per centage of sick to strength.	Per centage of deaths to sick treated.
Fevers......	Febrisephemera	20	0	26	1	81	4	73	3	154	7	5 ·243	4 ·545
	,, intermittens..	39	1	38	0								
	,, remittens.....	12	2	4	1								
	continua........	10	1	5	1								
	Cholera	10	7	13	8	10	7	13	8	23	15	0 ·783	65 ·217
Diseases of the abdominal viscera......	Diarrhœa.......	29	4	26	0	419	38	426	30	845	68	28 ·770	8 ·023
	Dysenteria acuta et chronica.	130	23	90	21								
	Obstipatio......	2	0	8	0								
	Dyspepsia......	211	9	267	7								
	Hœmorrhois....	44	2	31	2								
	Splenitis........	3	0	4	0								
	Hepatitis.......	49	2	66	4	49	2	66	4	115	6	3 ·915	5 ·217
Diseases of the Lungs & Heart..	Catarrhus......	11	2	9	0	45	9	71	8	116	17	3 ·949	14 ·655
	Asthma.........	13	2	44	5								
	Phthisis pulmonalis..........	4	4	2	2								
	Pneumonia.....	10	1	8	1								
	Dyspnœa.......	7	0	8	0								
Diseases of the Brain.	Apoplexia......	10	4	17	13	225	21	184	25	409	46	13 ·925	11 ·[illegible]46
	Epilepsia.......	6	0	5	0								
	Paralysis.......	37	3	47	9								
	Delirium trem..	18	5	20	1								
	Ebrietas........	152	9	92	1								
	Amentia,.......	0	0	0	0								
	Mania..	2	0	2	0								
	Hydrophobia...	0	0	1	1								
Eruptive fevers......	Variola.........	1	0	1	0	1	0	3	0	4	0	0 ·136	0 ·00
	Erysipelas......	0	0	2	0								
Dropsies. ..	Anasarca.......	11	2	11	2	15	2	24	7	39	9	1 ·327	23 ·07
	Ascites.........	4	0	13	5								
	Rheumat.acutus et chronicus..	120	2	119	3	120	2	119	3	239	5	8 ·137	2 ·0[illegible]
Venereal affections..	Syphilis primitiva..........	17	1	13	1	89	1	66	1	155	2	5 ·277	1 ·2[illegible]
	,, consecutiva ..	2	0	3	0								
	Gonorrhœa.....	57	0	36	0								
	Hernia humoralis............	8	0	7	0								
	Strictura urethræ...........	5	0	7	0								
Specific diseases.....	Dracunculus....	1	0	0	0	23	6	46	10	69	16	2 ·349	23 ·[illegible]
	Atrophia........	8	1	14	3								
	Scorbutus......	2	0	1	0								
	Beriberi........	12	5	30	7								
	Lepra..........	0	0	1	0								
Diseases of the eye...	Morbi oculorum	8	0	8	0	8	0	8	0	16	0	0 ·544	0 ·[illegible]
Do, ,, Skin.	,, Cutis......	11	0	22	0	11	0	22	0	33	0	1 ·123	0 ·[illegible]
	Other diseases..	287	4	224	2	287	4	224	2	511	6	17 ·398	1 ·[illegible]
	Total..	1383	96	1346	101	1383	96	1345	101	2728	197	92 ·883	7 ·[illegible]

Per centage of deaths to strength 6·707.

CANTONMENT OF VIZIANAGRUM.

Description of the cantonment. Vizianagrum is situated in north latitude 18° 2″, and east longitude 83° 32″; being 12 miles distant from the sea. The garrison at present consists of one regiment of native infantry, and a detachment of foot artillery.

At the distance of one mile from the cantonment, which is placed on ground sloping gently to the northward, are the fort and village of Vizianagrum, and lying between them a large tank which contains water at all seasons of the year. The inhabitants of the village are chiefly weavers and cultivators of land; and the fort is entirely occupied by the palace, and buildings of the Rajah. The station contains about 26 officers' houses, the most of which are tiled; but some are roofed with the cadjan leaf, and are in a tolerable state of repair. Roads. The roads in the vicinity are excellent, being kept up by private funds.

Soil. The surrounding country is almost entirely under cultivation, and the soil is a deep, and very productive alluvium. The crops raised are chiefly rice and cooltie, but most of the other ordinary productions of the country, are also to be had.

Climate. The climate is generally salubrious, though some seasons of the year, are less so than others. At the distance of six miles in a northerly direction rise numerous ranges of hills, connected with the eastern ghauts, and in the vicinity of these, fever is always very prevalent. They were formerly covered with trees, but are now bare, there being only a few detached patches of stunted underwood to be seen.

The climate from September till March, enjoys a high reputation for salubrity, so much so, as to tempt the European residents from Waltair and Vizagapatam, to remove hither during these months. The enervating effects of the humid atmosphere of the coast, being visible in the pallid looks of

persons on first arrival from thence. A short residence however at Vizianagrum produces a marked change, particularly observable in the rapidly improved appearance which takes place in children. In the month of April the weather becomes warm, and towards the middle of the month, the hot land winds commence; the thermometer sometimes standing at 100° during the whole 24 hours, and at night seldom falling below 96°, when it is both oppressive and exhausting. Towards the end of the month of May rain falls, which cools the air, and early in June, after considerable atmospheric changes, the monsoon sets in, when it becomes cool, although the nights are occasionally warm. A good deal of rain falls in September and October, and towards the end of the latter month, cold northerly winds commence. The weather during the remainder of the year, is cold and to some persons disagreeably so.

Barracks and hospital. The barracks or places of arms, are immediately in front of the parade ground, facing to the south, and running east and west. The officers quarters are situated on the west side of the barrack, and immediately behind them, on the north, are the sepoys lines. On the east, and in a line with the barracks, is the hospital, a large and well constructed building, surrounded by a verandah 10 feet broad, capable of containing 60 patients; it consists of two wards, which are placed at right angles to one another, the larger is 78 feet in length, and 18 in breadth, and is calculated for 40 patients, the smaller is 36 feet in length, and 18 in breadth, and is adapted for 20 patients; at the corners, there are four verandah rooms, which are used as the surgery, store rooms and baths. The hospital is raised six feet above the ground, and is entered by a flight of seven steps, at three different places. It is built of brick and chunam and tiled, and is in perfect repair. From the numerous doors and windows, and the elevated position of the hospital, the ventilation is perfect. A wall seven feet high, at the distance of 48 yards surrounds it, and in the east and west corners of the enclosure, are the cook room and necessary.

o. 24.—Table exhibiting the number of Admissions and Deaths amongst the Native Troops stationed at Vizianagrum, from 1829 *to* 1840, *exclusive of* 1830 *and* 1831.

CLASSES.	DISEASES.	Aggregatestrength 15053. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Admissions and Deaths from each class of Disease. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Totaladmissions from each class.	Total deaths from each class.	Per centage of sick to strength.	Per centage of deaths to sick treated.
	Febris ephemera	366	1	822	0								
	„ int. quot..	1661	29	2360	17								
...vers......	„ tertian.....	24	0	90	1	2149	40	3434	33	5583	73	42 ·771	1 ·307
	„ remittens..	89	7	129	10								
	„ com. cont.	9	3	33	5								
	Cholera	72	29	72	29	72	29	72	29	144	58	1 ·103	40 ·277
	Diarrhœa	54	4	64	0								
...eases of	Dysenteria acuta et chronica.	89	8	141	10								
...e Abdo-	Obstipatio......	18	0	32	0	277	15	440	12	717	27	5 .492	3 ·765
...inal vis-	Dyspepsia......	103	3	195	1								
...era.......	Hœmorrhois....	8	0	6	1								
	Splenitis........	5	0	2	0								
	Hepatitis.......	5	1	13	3	5	1	13	3	18	4	0 ·137	22 ·222
	Catarrhus......	16	1	30	1								
	Asthma........	29	2	55	2								
...eases of ...e Lungs	Phthisis pulmonalis..........	3	3	6	3	57	9	111	7	168	16	1 ·287	9 ·523
	Pneumonia.....	6	3	2	0								
	Dyspnœa.......	3	0	12	1								
	Apoplexia......	0	0	4	3								
	Epilepsia.......	4	0	2	0								
...o. of the	Paralysis.......	4	1	6	1								
...rain.....	Amentia........	0	0	3	0	15	3	24	5	39	8	0 ·298	20 ·512
	Mania..........	6	1	8	0								
	Tetanus........	1	1	1	1								
	Variola.........	12	0	2	0								
...ptive fe-	Varicella.......	95	0	15	0								
...rs......	Erysipelas.......	6	0	8	0	117	0	27	0	144	0	1 ·103	0 ·000
	Rubeola.........	4	0	2	0								
	Anasarca.......	9	0	5	0								
...ocies....	Ascites...........	4	2	2	2	13	2	7	2	20	4	0 ·152	20 ·000
	Rheumat. acutus et chronicus.	453	2	594	13	453	2	594	13	1047	15	8 ·021	1 ·432
	Syphilis prim..	111	1	140	3								
	„ Consecutiva	0	0	4	0								
...real af-	Gonorrhœa......	39	0	66	0								
tions..	Hernia humor..	29	0	33	0	186	1	246	4	432	5	3 ·309	1 ·157
	Strictura urethrae.........	7	0	3	1								
	Dracunculus....	6	0	2	0								
...fic dis-	Atrophia.......	14	2	21	8								
...es.....	Beriberi........	120	18	298	32	144	20	325	40	469	60	3 ·593	12 ·797
	Lepra...........	1	0	1	0								
	Scrophula......	3	0	3	0								
...eases of ...eye...	Morbi oculorum	58	0	103	1	58	0	103	1	161	1	1 ·253	0 ·602
„ Skin	„ cutis.....	416	0	342	1	416	0	342	1	758	1	5 ·807	0 ·131
	Other diseases.	946	3	1075	6	946	3	1075	6	*2021	9	15 ·483	0 ·445
	Total..	1908	125	6813	156	4908	125	6813	156	11721	2 31	89 ·7 5	2 ·397

* Of this number were Phlogosis.... 691 and 2 deaths.
„ „ Ulcus...... 321 „ 3 „

Per centage of deaths to strength.. 2·152.

GANJAM DISTRICT.

General description of the district.

This extensive district, which is the most northern part of the Madras territories, stretches along the sea coast, in a north-easterly direction, from the Vizagapatam collectorate, to the Chilka lake; a part of the Goomsoor Rajah's country intervening between it and the Mahanuddy river, which separates the Madras presidency from the province of Cuttack, in Bengal. It lies between 18°15′, and 20° 15″ of north latitude, and is of very irregular breadth, varying from 10 to 15 miles in some parts, where the ghauts approach near to the coast, to from 40 to 60 miles, in other situations, where they recede more inland.

The general appearance of the country is not very dissimilar to that of the northern portion of the Vizagapatam district already described, the ghauts however approach nearer to the sea than in that district, although throughout the entire line of coast, an extensive, fertile, alluvial plain free from hills of any considerable height, extends from it to the ghauts.

Population and Extent.

The country lying between the coast and the ghauts, is estimated to contain 6,400 square miles, with a population of 4,38,174 souls. It is extremely fertile, and produces larger quantities of rice, and other grains, and also sugar cane and cotton; besides which a variety of articles of hill produce are to be met with, such as gums, wax, arrow root and native dyes, which are exported in considerable quantities—Ganjam has long been known for its sugar of an excellent quality; Berhampore silks were formerly prized; and Chicacole is still justly celebrated for its fine muslins.

Rivers and Water.

There are no rivers of any importance in the district, though various small streams, chiefly

of the character of mountain torrents, which become completely dried up in the hot season, flow from the hills to the sea : the Ganjam and Chicacole rivers being the largest of these; tanks and wells are every where to be met with, and water is generally of good quality, and well adapted both for cultivation, and for domestic purposes.

Lake. The Chilka lake may be considered as an extensive back water 35 miles in length, by about 8 in breadth, on the north-west side of which, the chain of the eastern ghauts abruptly terminates ; and on its western side the lake is separated from the sea by a long neck of sand, of nearly a mile in breadth.

The entrance through this bank from the sea, at the village of Manickpatam on the northern side, is about three quarters of a mile wide, the ferry is however unsafe at particular seasons, especially during the north-east monsoon, when travellers usually prefer the circuitous route along the western borders of the lake.

This extensive sheet of water is diversified by several beautifully wooded islands, which abound with game ; and before Ganjam became so unhealthy as to occasion its being wholly deserted, was the frequent resort of European visitors from other stations, during the hot months, some excellent houses having been erected on its margin.

Roads. The great northern road from Madras to Calcutta, runs through the entire length of the district, parallel to the coast, and is in general within a short distance of it.

Chief Stations in the district. The civil and military stations are, Chicacole, Berhampore, Russel-condah, Aska, Kimmedy and Itchapore; Ganjam from which it derives its name, having been completely deserted since the year 1815, when a malignant epidemic fever broke out, which carried off a large porportion of its inhabitants, both Europeans and natives, and in consequence of which, the courts and other civil establishments, were removed from thence to Chicacole.

CHICACOLE.

Description of the station.

Chicacole lies about four miles from the sea in a direct line, on the north bank of the Nagglawdy river, which divides the village into two nearly equal parts, being distant 44 miles north-east of Vizianagrum, and 115 south-west of Berhampore. On the north, east and west, it is surrounded by large tracts of rice cultivation, and extensive plains of cotton ground, which are partially watered by channels from the river.

The face of the country on the opposite bank of the river, is of a dry ferruginous nature, and not so well adapted for cultivation as that on the cantonment side; and there are no hills of any magnitude nearer than from 12 or 15 miles.

Native town.

Chicacole, which lies south of the old fort, is built in a straggling manner, and like native towns in general, the streets are narrow, confined and dirty, and from the flatness of the ground, and surrounding country, they are frequently almost impassable after heavy rain, in consequence of which, the houses are all raised from two to four feet, in order to secure dry flooring; the houses are usually built of mud, and thatched, but many also are tiled, and some few have terraced roofs. Wells are numerous, but the water in all is brackish, except in one from which the European inhabitants derive their supply; the sepoys and inhabitants of the town use the river water, which is considered good for culinary purposes.

The Chicacole river or Nagglawdy.

The river has its source in the hills, near Polcondah, and in its bed are numerous rocks, of granitic formation; when full from bank to bank, it is about a quarter of a mile in breadth in some parts, and as much as half a mile in others; the stream is very rapid during the rains, and the natives float down timber, and bamboos by it for building purposes. Both its bed and banks are

chiefly composed of sand, in which there are numerous

Tanks. quick sands. There are but very few tanks in the immediate vicinity of the town, but several of considerable magnitude are to be found within five or six miles, many of which are covered with rank vegetation, and in the dry season, when they are almost dried up, are productive sources of malaria.

The periods of the year when exhalations are most abundant, is after the termination of the monsoon, at which time fevers and agues prevail. The climate of Chicacole is salubrious; the number of the inhabitants is computed at fifty thousand, the average number of inmates in each house, varying from five to fifteen.

During the cold months of the year, fogs are common both

Climate. in the mornings and evening. The prevailing winds from April to September, are from the south and south-east, and from October to March, from the north and north-east; the latter is cold, and that from the south-east, coming from the sea and along the bed of the river, brings with it much fine sand which accumulates in large mounds about the town; to such an extent in some situations, that an old Mahomedan mosque has become nearly covered with it.

Manufacture&c. Coarse cloths and muslins are the only articles of manufacture, the latter of a very superior texture and richly worked, are to be met with in all the markets throughout the country.

The vegetables commonly in use are in great abundance; and the bazaar is well furnished with native medicines. The hakeems are considered skilful, though very little acquainted with European medicine; and there is a class of persons, who bring down from the hills, honey, bees wax, and dammer.

Roads. The roads are of the worst description, with the exception of one, which has lately been laid down with ferruginous earth; those in the neighbourhood, are generally

sandy, and no labour is expended on them for repairs. The jail prisoners have been occasionally employed digging drains in the town.

Many of the better class of natives sleep on cots, with coir bedding or mats, but the poor lie on the ground, either on mats or cumblies; and their clothing is scanty and indifferent.

The fuel chiefly used is cow dung formed into cakes, and dried in the sun, for firewood though plentiful, is beyond the means of the poor.

The necessaries of life in favourable seasons are in great abundance, and cheap—the average price of the ordinary rice, being about one rupee for forty seers. Raggee is very cheap, and also much used, being eaten like porridge.

Employments. Many of the inhabitants are employed in weaving cotton cloth and muslin, the work being carried on in the open air; and the remainder are cultivators.

There are several native schools in the town, and one supported by voluntary contributions, in which the English language is taught.

There has heretofore been no poor house, or place of reception for vagrants or destitute persons, but a society has lately been formed for their relief.

Breed of Cattle. The breed of cattle is diminutive, and the pasturage, throughout a considerable part of the year, exceedingly scanty; at the commencement of the monsoon, numbers die of purging, produced by the sudden change from dry to green food.

Public buildings. The barracks, hospital, magazine, stores, and also the residence of the commanding officer, the adjutant and the medical officer, are all situated within the walls of an old mud fort, which is in a ruinous condition. The ditch though partly filled up, can still be traced, and in many places con-

tains pools of stagnant water. The buildings enumerated, surround an open space, called the parade ground; the regimental lines being without the fort, at the distance of about 100 yards, in the south-west direction; they are open, airy and regularly built.

The hospital which is intended both for the sick of a native regiment, and the garrison details, stands on elevated dry ground. It is sufficiently large and roomy to admit of a double row of cots, has a good surgery,—a separate apartment for the sick of the garrison, and a small guard room in front.—At the back of the building is a wall belonging to some adjoining premises running parallel with it, by which the free circulation of air in that direction, is somewhat prevented.

Jail. The jail is situated near the river, about half a mile from the cantonment; it is a substantial building, but the walls are rather low, not being more than nine feet high; it is divided into several courts, for the various classes of prisoners, and altogether consists of ten cells; their average dimensions being 54 feet by 18, and 8 feet high, with six windows and two doors to each; the whole is considered to be well ventilated, and there is an ample supply of good water on the premises. The hospital is 50 feet by 15 and ten feet in height, and is also well ventilated. See the statement at the end of the report for diet, clothing, labour &c.

This jail was closed in December 1839, and the prisoners removed to Vizagapatam; but it is deemed proper to give here the usual tables of disease for the ten years from 1829 to 1838 inclusive. In table No. 27 are exhibited the annual admissions and deaths, from six of the principal diseases, viz. *fever, cholera, diarrhœa, dysentery, anasarca and beriberi;* the per centage is also given for the purpose of contrasting the state of the health of the prisoners in this jail, with that of the others in the division. It will be observed that the number of deaths from these six diseases amounts to 175, or 7-8ths of the whole mortality, the total deaths being 201.

JAIL OF CHICACOLE.

No. 25.—*Table exhibiting the number of Admissions and Deaths of the convicted Prisoners, from each class of disease for* 10 *years.*

CLASSES.	DISEASES.	1829, to 1838. Aggregate strength 1673. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Admissions and Deaths from each class of Disease. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Total admissions from each class.	Total deaths from each class.	Per centage of sick to strength.	Per centage of deaths to sick.
Fevers......	Febris ephemera	0	0	0	0								
	,, intermit quot.	163	1	230	2								
	,, tertiana......	2	0	1	0	178	6	241	3	419	9	25 ·044	2 ·147
	,, remittens.....	13	5	9	1								
	,, continua.....	0	0	1	0								
	Cholera.........	19	12	16	11	19	12	16	11	35	23	2 ·092	65 ·714
Diseases of the abdominal viscera......	Diarrhœa.......	35	3	38	4								
	Dysenteria acuta et chronica...	20	5	35	9	55	8	73	13	128	21	7 ·650	16 ·406
	Obstipatio......	0	0	0	0								
	Hepatitis acuta.	0	0	1	0	0	0	1	0	1	0	0 ·059	0 ·000
Diseases of the Lungs	Catarrhus......	2	0	0	0								
	Asthma.........	2	0	2	0	6	0	2	0	8	0	0 ·478	0 ·000
	Pneumonia......	2	0	0	0								
Diseases of the Brain.	Epilepsia.......	2	0	1	0								
	Paralysis.......	1	0	0	0	9	0	7	0	16	0	0 ·956	0 ·000
	Amentia........	6	0	6	0								
	Mania..........	0	0	0	0								
Eruptive fevers......	Variola.........	14	3	1	1								
	Varicella.......	23	0	1	0	37	3	3	1	40	4	2 ·390	10 ·000
	Eryipelas.......	0	0	1	0								
	Rheumat. acutus et chronicus..	82	1	70	0	82	1	70	0	152	1	9 ·085	0 ·657
	Syphillis primitiva..........	4	0	5	0	4	0	5	0	9	0	0 ·537	0 ·000
Specific diseases.....	Atrophia........	1	0	4	4								
	Beriberi........	57	12	58	16								
	Lepra..........	3	1	2	0	64	14	66	21	130	35	7 ·770	26 ·923
	Dracunculus....	0	0	0	0								
	Scrophula	3	1	2	1								
Diseases of the eye...	Morbi oculorum	4	1	6	1	4	1	6	1	10	2	0 ·597	20 ·000
Do ,, Sikn	,, cutis....	41	0	38	0	41	0	38	0	79	0	4 ·722	0 ·000
	Other diseases..	206	1	188	0	206	1	188	0	394	1	23 ·550	0 ·253
	Total..	705	46	716	50	705	46	716	50	1421	96	84 ·937	6 ·755

JAIL OF CHICACOLE.

. 26.—*Table exhibiting the number of Admissions and Deaths the Prisoners under trial from each class of disease for* 10 *years.*

CLASSES.	DISEASES.	1829 to 1839. Aggregatestrength 1006. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Admissions & deaths from each class of disease. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Totaladmissions from each class.	Total deaths from each class.	Per centage of sick to strength.	Per centage of deaths to sick.
ers.	Febrisephemera	0	0	1	0								
	,, intermit quot.	11	1	12	1								
	,, tertiana.......	0	0	0	0	13	3	13	1	26	4	2 ·584	15 ·384
	,, remittens.. ...	2	2	0	0								
	,, continua......	0	0	0	0								
	Cholera........	23	16	14	10	23	16	14	10	37	26	3 ·677	70 ·270
eases of the Abdo-minal vis-cera......	Diarrhœa......	3	1	8	3								
	Dysenteria acuta et chronica	8	3	11	8	11	4	19	11	30	15	2 ·982	50 ·000
	Obstipatio......	0	0	0	0								
	Catarrhus......	1	1	1	0	1	1	1	0	2	1	0 ·198	50 ·000
	Amentia........	0	0	2	0	0	0	2	0	2	0	0 ·198	0 ·000
ptive fe-rs......	Variola.........	1	0	0	0	4	0	0	0	4	0	0 ·397	0 ·000
	Varicella.......	3	0	0	0								
	Rheumat.acutus et chronicus..	1	0	8	1	1	0	8	1	9	1	0 ·894	11 ·111
ereal af-ections...	Syphilis primitiva..........	0	0	1	0	0	0	1	0	1	0	0 ·099	0 ·000
ific dis-ses.....	Atrophia.......	1	1	1	1	35	17	83	34	118	51	11 ·729	43 ·220
	Beriberi........	34	16	82	33								
iases of e eye...	Morbi oculorum	2	0	2	0	2	0	2	0	4	0	0 ·397	0 ·000
,, Skin.	,, Cutis......	3	0	30	1	3	0	30	1	33	1	3 ·280	3 ·030
	Other diseases..	41	5	33	1	41	5	33	1	74	6	7 ·355	8 ·108
	Total..	134	46	206	59	134	46	206	59	340	105	33 ·797	30 ·882

	Table No. 27 Jail of Chicacole.	1829.		1830.		1831.		1832.		1833.		1834.		1835.		1836.		1837.		1838.		Total.	
		Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.
Convicts.	Fever	5	2	34	0	18	0	57	1	42	0	45	2	101	0	49	1	48	2	20	1	419	9
	Cholera	0	0	0	0	7	5	4	2	4	4	17	12	0	0	0	0	2	0	1	0	35	23
	Diarrhœa	0	0	9	1	7	2	9	0	8	0	6	0	14	1	10	1	5	1	5	1	73	7
	Dysentery	1	0	9	3	10	1	5	1	7	0	10	6	6	1	2	1	2	1	3	0	55	14
	Anasarca	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Beriberi	7	2	5	0	13	5	6	1	1	0	28	9	22	2	15	3	10	5	8	1	115	28
	Admissions and deaths from these diseases.	13	4	57	4	55	13	81	5	62	4	103	29	143	4	76	6	67	9	37	3	697	81
	Total admissions and deaths	21	6	119	4	102	14	165	7	109	6	155	31	266	7	152	7	175	10	157	4	1421	96
	Strength each year	130		195		208		159		81		147		250		221		160		122		1673	
Under Trial.	Fever	0	0	0	0	0	0	2	0	7	0	4	1	5	0	4	1	4	2	0	0	26	4
	Cholera	0	0	0	0	0	0	1	0	13	10	16	11	0	0	0	0	6	4	1	1	37	26
	Diarrhœa	0	0	0	0	0	0	1	0	2	0	2	2	3	0	1	1	2	1	0	0	11	4
	Dysentery	2	1	3	2	1	1	1	0	4	1	5	5	1	0	2	1	0	0	0	0	19	11
	Anasarca	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Beriberi	2	1	10	5	21	11	1	0	5	2	59	18	6	7	4	3	4	1	4	1	116	49
	Admissions and deaths from these diseases.	4	2	13	7	22	12	6	0	31	13	86	37	15	7	11	6	16	8	5	2	209	91
	Total admissions and deaths	6	3	18	7	61	15	22	1	35	14	91	41	21	7	14	6	22	9	47	2	340	105
	Strength each year	73		88		150		71		164		224		71		65		55		45		1006	
	Admissions and deaths amongst both classes of prisoners	27	9	137	11	163	29	187	8	141	20	219	72	287	14	166	13	197	19	204	6	1761	201
	Total strength each year	203		283		358		230		245		371		321		286		215		167		2679	
	Per centage of deaths to strength	4	·433	3	·886	8	·100	3	·478	8	·163	19	·407	4	·361	4	·515	8	·837	3	·592	7	·502
	Per centage of sick to strength	13	·300	48	·409	45	·530	81	·304	58	·775	67	·115	89	·408	58	·041	91	·627	122	·155	65	·733
	Per centage of deaths to sick treated	33	·333	8	·029	17	·791	4	·278	13	·888	28	·915	4	·873	7	·831	9	·614	2	·941	11	·413

... 28.—Table exhibiting the number of Admissions and Deaths ...ongst the Native Troops at Chicacole, from 1830 *to* 1841 *; exclu... ...e of the years* 1832 *and* 1834, *and the* 2d *half of* 1833 *and* 1840.

CLASSES.	DISEASES.	Aggregate strength 6070. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Admissions and Deaths from each class of Disease. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Total admissions from each class.	Total deaths from each class.	Per centage of sick to strength.	Per centage of deaths to sick treated.
...vers......	Febris ephemera	302	1	493	6								
	„ int. quot..	1198	16	426	3								
	„ tertian.....	33	0	22	0	1597	18	959	14	2556	32	42 ·108	1 ·251
	„ remittens..	53	0	11	8								
	„ com. cont.	11	1	7	2								
	Cholera	24	10	32	21	24	10	32	21	56	31	0 ·922	55 ·357
...seases of the Abdominal viscera.......	Diarrhœa	52	0	59	1								
	Dysenteria.. ...	39	3	42	6								
	Obstipatio......	19	0	27	0	147	3	257	6	404	11	6 .655	3 ·723
	Dyspepsia......	33	0	126	1								
	Hœmorrhois....	4	0	3	0								
	Hepatitis.......	3	0	5	0	3	0	5	0	8	0	0 ·131	0 ·000
...eases of the Lungs	Catarrhus......	15	0	6	0								
	Asthma........	9	2	10	2								
	Phthisis pulmonalis..........	2	0	0	0	29	2	19	2	48	4	0 ·790	8 ·333
	Pneumonia.....	3	0	3	0								
...do. of the ...rain.	Apoplexia......	1	1	0	0								
	Epilepsia.......	1	0	4	1								
	Paralysis.......	23	0	0	0	30	1	5	2	35	3	0 ·576	8 ·571
	Mania..........	5	0	0	0								
	Tetanus........	0	0	1	1								
...ptive fevers.......	Variola.........	11	3	1	0								
	Varicella.......	39	0	1	0	50	3	3	0	53	3	0 ·873	5 ·660
	Erysipelas......	0	0	1	0								
...psies....	Anasarca.......	6	3	5	1	7	4	6	2	13	6	0 ·214	46 ·153
	Ascites..........	1	1	1	1								
	Rheumatismus,	256	1	240	7	256	1	240	7	496	8	8 ·171	1 ·612
...ereal affections ..	Syphilis prim..	46	0	43	1								
	„ Consecutiva	0	0	1	0								
	Gonorrhœa....	4	0	6	1								
	Hernia humor..	9	0	14	0	64	0	66	2	130	2	2 ·141	1 ·538
	Strictura urethrae.........	5	0	2	0								
...ific diseases.....	Dracunculus....	1	0	0	0								
	Atrophia........	15	3	20	3								
	Scorbutus......	1	0	0	0								
	Scrophula......	3	0	2	1	88	9	198	14	286	23	4 ·711	8 ·041
	Beriberi..	67	6	176	10								
	Lepra...........	1	0	0	0								
...ases of ...e eye...	Morbi oculorum	28	0	24	0	28	0	24	0	52	0	0 ·856	0 ·000
... „ Skin	„ cutis....	198	0	159	0	198	0	159	0	357	0	5 ·881	0 ·000
	Other diseases.	531	3	458	5	531	3	458	5	*989	8	16 ·293	0 ·808
	Total..	3052	54	2431	77	3052	54	2431	77	5483	131	90 ·329	2 ·389

* Of this number were Phlogosis 489 and 1 death.
„ „ Ulcus...110
Per centage of deaths to strength 2·156.

BERHAMPORE.

General description. The station of Berhampore lies 150 miles north of Chicacole, and has been occupied by a native regiment for about 29 years past, having been selected in consequence of the malignant epidemic fever, which broke out about that time, at the neighbouring station of Ganjam, 17 miles to the north of it, and which, was in consequence wholly abandoned, both as a civil and military station. It is in north latitude 19°, 20″ and east longitude 84°, 50″, and is placed on a rocky ledge of ground, surrounded by an extensive cultivated plain, bounded by a range of hills, on the west and north at the distance of from five to ten miles, and open to the south and east.

Hills. The western hills are of considerable altitude, and covered with brushwood, and bamboo jungle to their summits, forming a bold continuous outline; those to the north, being undulating, and less elevated. About six miles to the eastward is the sea coast, towards which the plain gradually slpoes; an extensive bank of sand hills, though of inconsiderable height, running along the shore.

Nullahs. There is no river in the vicinity of Berhampore, but there are several nullahs, which are quite dry except during the monsoon, when they become rapid streams, conveying the rain from the western hills, to the Ganjam river. The plain is studded with numerous small tanks, though little is done in the way of irrigation, the crops being allowed to depend upon the rains for the necessary supply of moisture.

The great northern road from Madras to Calcutta, passes close by the western end of the cantonment, and is in excellent order in the vicinity.

Climate. The south-west monsoon sets in at the beginning of June, and continues till September, when it is succeeded

by that from the north-east, which usually terminates by the end of October.

The climate is more healthy and bracing, both to European and native constitutions, than most others in southern India. November, December, January and February are delightful months, the sky being clear, and the atmosphere cool, with heavy dews at night. The thermometer at this time ranges from 50° to 75.° The hot season commences about the end of March, and continues throughout April and May, during which period strong southerly winds prevail, and constitute the only unhealthy portion of the year, when fevers and rheumatism prevail. The thermometer then ranges from 75° to 90° ; the weather is also very sultry and oppressive, between the showers, at the commencement of the rains.

Soil. The soil of the cantonment is dry and gravelly, large heaps of granitic rocks rising through the surface in all directions, especially towards the north-eastern point, which is the most elevated part, the average height of the range being from 40 to 50 feet above the level of the neighbouring plain.

A plentiful supply of good spring water is obtainable throughout the year, in wells of from 10 to 12 feet deep.

Vegetable productions. The vegetable products of the country are rice and a variety of other grains, sugar cane, gram, and oil seeds. The principal trees are the banian, mango, cushoo-nut and the neem. Of wild animals there are bears in considerable numbers, chetahs, tiger-cats, hyenas, jackalls, hares, &c.

Animals.

The officers houses though built of mud, plastered over wattles, and thatched, are comfortable dwellings, and particularly cool. To the westward, in which direction the level somewhat descends, are the parade ground, places of arms, store rooms, magazine, solitary cells, staff serjeants quarters, and regimental lines. The magazine is a bombproof building

the others are built of brick and mud, with tiled roofs—The solitary cells are well situated, each is ten feet square, and they are lighted and aired from the top, by small windows.

Native lines. The lines, though lower than the other parts of the cantonment, are elevated with regard to the adjacent country; they are sufficiently open, spacious, and comfortable, the huts being built of mud, and thatched. There are numerous wells in the lines, the water of which is said to be brackish, but a plentiful supply of good water, is procurable from a large neighbouring tank.

Native town. The native town is adjacent to the northern side of the sepoys lines, and somewhat lower; it is a large and densely populated place, containing 20,000 souls, chiefly gentoos and woodias. The houses are small, and generally built of mud—(though some few are of brick,)—and the streets are narrow and dirty. Beyond the town on the north side, is a strip of paddy ground, and a considerable swamp extending towards the base of the hills; malaria however, if engendered in this locality, does not appear to reach the lines, or influence the health of the cantonment. The wind seldom blows from that direction, and when it does, the neighbouring lofty hills, protect the lines from the influence of the swamp.

The town has extensive well supplied bazars, in which all sorts of grain, meat, fish &c. are abundant; it has a manufacture of silk and cotton cloths, and sugar and sugar candy, are also made in large quantities.

The hospital is distant eastward from the place of arms, 1140 yards, it is an oblong building of brick and mud with a tiled roof, containing one ward, 43 feet by 24, a dispensary, 11 by 24, with verandahs in front and rear, 12 feet broad. It is situated in the highest part of the Cantonment, and in an open and airy position, free from all stagnant pools, or other offensive accumulations.

[N]o. 29.—Table exhibiting the number of Admissions and Deaths [am]ongst the Native Troops at Berhampore, from 1829 *to* 1841; *exclusive of the years* 1831 *and* 1832.

[C]LASSES.	DISEASES.	Aggregate strength 9505. 1st Half. Ad.	1st Half. Dd.	2d Half. Ad.	2d Half. Dd.	Admissions and Deaths from each class of Disease. 1st Half. Ad.	1st Half. Dd.	2d Half. Ad.	2d Half. Dd.	Total admissions from each class.	Total deaths from each class.	Per centage of sick to strength.	Per centage of deaths to sick treated.
	Febris ephemera	208	0	415	3								
	,, intermit quot.	735	14	865	12								
[Fev]ers......	,, tertiana......	22	0	23	0	1004	15	1360	19	2361	34	21 ·871	1 ·438
	,, remittens.....	22	1	30	2								
	,, com cont.....	17	0	27	2								
	Cholera	17	12	47	16	17	12	47	16	64	28	0 ·673	43 ·750
	Diarrhœa.......	23	3	68	4								
[Dis]eases of	Dysenteria......	44	6	60	5								
[th]e abdo-	Obstipatio......	12	0	12	0	156	11	237	11	393	22	4 ·134	5 ·597
[m]inal vis-	Dyspepsia......	74	2	85	2								
[ce]ra......	Hœmorrhois....	3	0	12	0								
	Hepatitis.......	3	2	7	2	3	2	7	2	10	4	0 ·105	40 ·000
	Catarrhus......	12	0	19	0								
[Dis]eases of	Asthma.........	13	1	9	0								
[th]e Lungs [and] Heart..	Phthisis pulmonalis..........	4	5	5	2	42	6	36	3	78	9	0 ·820	11 ·538
	Pneumonia.....	13	0	3	1								
	Apoplexia......	1	1	2	0								
	Epilepsia.......	2	2	1	0								
	Paralysis........	4	1	10	1								
[Dis]eases of [th]e Brain.	Amentia,.......	1	0	0	0	13	5	15	2	28	7	0 ·294	25 ·000
	Mania.........	4	1	0	0								
	Hydrophobia...	0	0	1	1								
	Tetanus........	1	0	1	0								
	Variola.........	4	0	6	3								
[Eru]ptive fe-	Varicella.......	10	0	4	0	23	1	27	3	50	4	0 ·526	8 ·000
[ve]rs......	Rubeola........	8	0	15	0								
	Erysipelas......	1	1	2	0								
[Dro]psies...	Anasarca.......	5	0	19	2	7	1	24	5	31	6	0 ·326	19 ·354
	Ascites.........	2	1	5	3								
	Rheumatismus..	226	2	322	6	226	2	322	6	548	8	5 ·761	1 ·459
	Syphilis primitiva..........	80	2	67	0								
	,, consecutiva ..	9	0	14	1								
[Ven]ereal af-	Gonorrhœa.....	27	0	30	0								
[fe]ctions ..	Hernia humoralis............	5	0	17	0	122	2	130	1	252	3	2 ·651	1 ·190
	Strictura urethræ..........	1	0	2	0								
	Dracunculus....	3	0	2	0								
[Spe]cific dis-	Atrophia........	25	1	56	1								
[e]ases.....	Scrophula......	4	0	5	1	63	6	125	9	188	15	1 ·977	7 ·978
	Beriberi........	31	5	61	7								
	Lepra..........	0	0	1	0								
[Dis]eases of [th]e eye...	Morbi oculorum	30	0	35	0	30	0	35	0	65	0	0 ·679	0 ·000
,, Skin.	,, Cutis......	173	0	229	0	173	0	229	0	402	0	1 ·229	0 ·000
	Other diseases..	586	5	645	4	586	5	645	4	*1231	9	12 ·951	0 ·731
	Total..	2465	68	3239	81	2465	68	3239	81	5704	149	60 ·010	2 ·612

* Of this number were Phlogosis.... 490 and 4 deaths.
,, ,, Ulcus...... 235 ,, 2

Per centage of deaths to strength... 1·672

RUSSEL-CONDAH.

Description of the Cantonment &c.

The new cantonment of Russel-condah, is the most western station in the division, and was first occupied subsequent to the Goomsoor war of 1836, having been named after G. Russell Esq., the Commissioner, attached to the army during the campaign. It lies at the foot of a hill, from which it derives its second appellation of condah, and is in north latitude 20°, 00″ and east longitude 84° 40, being distant six miles north of the fort of Goomsoor ; 736 miles from Madras, and 450 from Calcutta; to the nearest sea port, Ganjam, the distance is 56 miles. Its height above the level of the sea, is about one hundred and fifty feet. The surrounding country, is very hilly, the hills varying in height from 500 to 2000 feet, and thickly covered with dense jungle, that in low situations being chiefly jungle composed of bamboos. The soil of the plains, which is alluvial, is sandy and very fertile. For some miles round the cantonment, the plains are cultivated with paddy, and very productive. On the higher grounds, dry grains, sugar cane, cotton, and castor oil are grown. The mango tree is very plentiful and productive, large topes being found every where throughout the surrounding country ; when in season, the fruit is the principal food of the natives, and no bad effects have been known to follow its use. The country is well supplied with good water, and the wells in the cantonment, do not become dry throughout the year. Two small rivers pass through the station, on the left bank of one of which the sepoys lines are built, and the other runs through the village of Nowgaum, about a mile and a half distant ; both streams unite about six miles from Russel-condah, and running a very devious course through Aska, flow into the sea at Ganjam ; in the hot season these rivers become quite dried up, but in the monsoon they occasionally overflow their banks.

Tanks. Tanks are small, and few, the largest to be seen, is five miles from the cantonment, and measures about two miles in circumference.

Climate. The south-west moonsoon sets in about the middle of June, and is generally over towards the middle of October, the average annual fall of rain has not been ascertained. The weather is cool and pleasant nine months of the year, but hot during the other three, viz. in March April and May, at which time the nights are very oppressive.

The prevailing winds are north-east and south-west, the former blows during November, and is very cold and piercing. Thunder and lightning frequently occur at the commencement of the north-east monsoon, accompained with very heavy showers; in October 1842, this part of the country was visited by a typhoon from the north-west, which did much injury.

Barracks and hospital. The barracks or place of arms, are situated near the foot of a hill, fronting the east, and were first occupied in October 1842. The hospital is also a new building on an elevated platform, about a hundred yards from, and in a parralel line with the barracks; it is well built and commodious, there are two wards placed at right angles, which are large, lofty and comfortable, with verandahs all round, and it is open and well ventilated. The dimensions of the wards are 80 by 18 feet, and 34 by 18, with walls 20 feet high.

In addition to the above, there are two small rooms, used as a bath room and a dispensary; with a cook house and privy; the whole being enclosed by a wall five feet high, distant 30 feet in front and at the sides, and 40 feet in the rear, forming altogether a very complete structure. Both hospital and barracks are built of burnt brick, and tiled. The floor of the small ward is flagged, that of the large one chunamed.

No. 30.—*Table exhibiting the number of Admissions and Deaths amongst the Native Troops at Russel-condah, from* 1837, *(when first garrisoned) to* 1841, *inclusive.*

CLASSES.	DISEASES.	Aggregatestrength 4351. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Admissions and Deaths from each class of Disease. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Totaladmissions from each class.	Total deaths from each class.	Per centage of sick to strength.	Per centage of deaths to sick treated.
Fevers......	Febris ephemera	74	0	146	0								
	,, int. quot..	499	2	1055	6								
	,, tertiau.....	6	0	26	1	606	7	1260	9	1866	16	42 ·886	0 ·857
	,, remittens..	12	1	3	0								
	,, com. cont.	15	4	30	2								
	Cholera	56	21	7	6	56	21	7	6	63	27	1 ·447	42 ·857
Diseases of the Abdominal viscera.......	Diarrhœa	40	1	34	2								
	Dysenteria.. ...	21	2	29	0								
	Obstipatio......	0	0	1	0	87	4	102	2	189	6	4 ·343	3 ·174
	Dyspepsia......	23	1	28	0								
	Hœmorrhois....	3	0	10	0								
	Hepatitis.......	1	0	0	0	1	0	0	0	1	0	0 ·022	0 ·000
Diseases of the Lungs	Catarrhus......	9	0	7	0								
	Asthma	4	0	5	1								
	Phthisis pulmonalis.........	5	1	2	2	27	2	15	3	42	5	0 ·965	11 ·901
	Pneumonia.....	5	1	0	0								
	Dyspnœa.......	4	0	1	0								
Do. of the Brain.....	Apoplexia......	0	0	1	1								
	Epilepsia.......	0	0	1	0								
	Paralysis.......	2	0	2	0	6	0	7	1	13	1	0 ·298	7 ·692
	Amentia........	3	0	3	0								
	Mania..........	1	0	0	0								
Eruptive fevers......	Variola.........	18	1	0	0								
	Varicella.......	85	0	1	0	105	1	2	0	107	1	2 ·459	0 ·934
	Erysipelas......	2	0	1	0								
Dropsies....	Anasarca.......	4	0	8	0	5	0	8	0	13	0	0 ·298	0 ·000
	Ascites....	1	0	0	0								
	Rheumatismus,	163	0	168	1	163	0	168	1	331	1	7 ·607	0 ·302
Venereal affections..	Syphilis prim..	36	0	26	0								
	,, Consecutiva	9	2	6	0								
	Gonorrhœa.. ..	3	0	10	0	58	2	59	1	117	3	2 ·689	2 ·564
	Hernia humor..	9	0	16	1								
	Strictura urethrae.........	1	0	1	0								
Specific diseases.....	Dracunculus....	7	0	5	0								
	Atrophia........	3	0	11	0	16	0	27	4	43	4	0 ·988	9 ·302
	Beriberi........	5	0	11	4								
	Scrophula......	1	0	0	0								
Diseases of the eye...	Morbi oculorum	26	0	34	0	26	0	34	0	60	0	1 ·378	0 ·000
Do. ,, Skin	,, cutis....	102	0	55	0	102	0	55	0	157	0	3 ·608	0 ·000
	Other diseases.	373	1	349	1	373	1	349	1	*722	2	16 ·593	0 ·277
	Total..	1631	38	2093	28	1631	38	2093	28	3724	66	85 ·589	1 ·772

* Of this number were Phlogosis 254—Ulcus... 2:2
Per centage of deaths to strength, 1·516.

REMARKS ON THE GENERAL TABLES.

Remarks on the general tables of disease.

In the general table No. 1, for Europeans are included the sick of H. M.'s regiment and the first Madras European regiment at Masulipatam, and also those of the Veterans at Vizagapatam ; separate tables have however been given at page 336, 341, and 373, as the sickness and mortality amongst the latter differ exceedingly from those of the troops of the line. The table exhibits the admission into hospital, and the mortality from the principal diseases each half year, for the usual period of ten years, from 1829 to 1838 inclusive. The annual per centage of sick to strength, of deaths to sick treated, and of deaths to strength, are also given ; the average of these as shewn in the Abstract table No. 2, being 184·243, 5·509, and 10·151, respectively.

In 1833 and 1834, these averages were much increased, from the prevalence of cholera, dysentery and fever, and in the remarks appended to the report of Masulipatam, an explanation thereof is given.

During the last four years no European troops of the line were stationed in this division; table No. 23, page 66 shews the nature of the diseases which have occurred amongst the Veterans at Vizagapatam. Of the total deaths therein exhibited 197, the greater number of those, under the head *dysentery*, all under the heads *dyspepsia, hepatitis, apoplexia, paralysis, delirium tremens and ebrietas,* amounting in all to nearly 80, have been occasioned, in the opinion of the Medical Officers in charge, by exeessive indulgence in the use of ardent spirits ; many of their reports on this subject are truly melancholy.

On referring to the Abstract table No. 2, it will be

observed that the admissions have amounted to 11670, and the deaths to 643, from an aggregate strength of 6334 men.

The most prevalent diseases have been *fevers, dysentery, venereal complaints, rheumatism, hepatitis, diarrhœa, and cholera;* and the greatest mortality has been produced by *dysentery, cholera, fever, hepatitis, thoracic diseases and diarrhœa;* the per centage from each of which is noted in the table. The admissions are pretty equal during each of the half yearly periods, but fever and dysentery are most prevalent during the second half yearly period; and the excess of mortality in this season of the year is wholly caused by dysentery and fever.

Cholera appeared in an epidemic form in 1830, 1831, 1832 and 1833. In April and May 1830, while the left wing of the first Madras European regiment was marching from Kamptee to Masulipatam, 20 men were buried out of 40 attacked; in August 1831, in the same wing while stationed at Masulipatam, 40 cases of cholera occurred with 6 deaths; again in November 1832, H.M. 46th regiment, while marching from Secunderabad to Masulipatam, lost 15 men out of 34 attacked, and lastly as has already been detailed in a former part of this report, H. M.'s 62d regiment suffered severely from cholera in 1833, on its march to Masulipatam from Bangalore.

Tables No. 3 and 4, exhibit the admissions from the same diseases and the mortality which have occurred amongst the Native troops throughout the whole division for the same period.

Fevers, rheumatism, bowel complaints and cutaneous diseases and beriberi have been the most prevalent diseases, while the greatest mortality has resulted from *fevers, cholera, bowel complaints, beriberi, rheumatism and thoracic diseases.* The total number treated has been 72190, and 2122 have died, from an aggregate strength of 81,806; the average per centage of sick to strength being 88·245, of deaths to sick

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Table No. 1.—*Return of sick of the European Troops, exhibiting the half yearly Admissions and Deaths, from the principal diseases, and those which have been either Epidemic or Endemic, during the period of ten years, from* 1829 *to* 1838.

Years.			Admissions and deaths.	Apoplexy.	Atrophy.	Beriberi.	Cholera.	Cutaneous diseases.	Delirium Tremens.	Diarrhœa.	Dysentery.	Elephantiasis.	Fever ephemeral.	" continued.	" intermittent.	" remittent.	Guinea Worm.	Hepatic diseases.	Insanity.	Leprosy.	Ophthalmy.	Rheumatism.	Small pox.	Syphilis &c.	Thoracic diseases.	Ulcer phagedenic.	Wounds & injuries.	Other complaints.	Strength each year.	Annual per centage of sick to strength.	Annual per centage of deaths to sick treated.	Annual per centage of deaths to strength.
1829	Admitted.	1st half.	923	0	0	0	0	0	10	36	55	0	0	13	45	12	0	46	8	0	8	98	0	77	38	0	80	397	1010	167 ·920	2 ·889	4 ·851
		2d "	773	4	0	9	1	0	3	43	108	0	0	30	19	11	0	37	0	0	16	80	0	16	14	0	95	287				
	Died.	1st half.	22	0	0	0	0	0	2	1	3	0	0	1	1	0	0	2	3	0	0	1	0	2	0	0	0	6				
		2d "	27	1	0	2	0	0	1	1	7	0	0	1	0	0	0	2	0	0	0	2	0	0	1	0	1	8				
1830	Admitted.	1st half.	491	2	0	2	40	0	0	23	72	0	0	0	47	3	0	25	0	0	8	63	0	24	5	0	34	143	690	149 ·565	5 ·717	8 ·550
		2d "	541	3	3	8	4	0	0	22	51	0	2	0	43	3	0	34	0	0	6	52	0	16	20	0	39	235				
	Died.	1st half.	34	0	1	1	20	0	0	0	5	0	0	0	2	1	0	1	0	0	0	0	0	0	0	0	0	3				
		2d "	25	1	2	0	1	0	0	2	8	0	0	0	1	0	0	1	0	0	0	1	0	0	2	0	1	5				
1831	Admitted.	1st half.	610	2	0	7	9	0	0	18	84	0	21	0	12	44	0	71	0	0	5	32	0	40	7	0	52	236	891	165 ·095	5 ·642	9 ·315
		2d "	831	1	0	5	48	0	0	45	115	0	15	1	23	42	0	81	0	0	3	40	0	28	23	0	53	308				
	Died.	1st half.	27	2	0	1	0	0	0	0	6	0	0	0	0	1	0	6	0	0	0	0	0	1	0	0	1	9				
		2d "	56	1	0	2	11	0	0	0	17	0	0	0	0	2	0	2	0	0	0	2	0	2	4	0	0	13				
1832	Admitted.	1st half.	625	0	0	13	4	0	0	12	64	0	10	9	21	14	0	55	0	0	9	23	0	40	21	0	60	270	904	178 ·429	5 ·145	9 ·181
		2d "	988	2	2	6	49	0	0	70	87	0	12	80	19	22	0	46	6	0	18	57	0	186	37	0	51	238				
	Died.	1st half.	30	0	0	3	4	0	0	3	5	0	0	0	2	1	0	6	0	0	0	2	0	1	1	0	0	2				
		2d "	53	2	1	3	24	0	0	5	4	0	0	0	0	0	0	4	0	0	0	0	0	0	1	0	0	9				
1833	Admitted.	1st half.	1539	0	34	0	113	0	0	100	173	0	12	279	10	49	0	74	0	0	18	67	0	172	19	0	60	359	924	285 ·173	6 ·603	18 ·831
		2d "	1096	2	3	2	37	0	2	36	228	0	5	117	50	39	0	47	1	0	6	38	0	63	19	0	21	380				
	Died.	1st half.	82	0	11	1	27	0	0	3	25	0	0	1	0	0	0	4	0	0	0	2	0	0	1	0	1	6				
		2d "	92	1	1	0	10	0	1	3	43	0	2	3	0	3	0	5	1	0	0	0	0	1	2	0	0	16				
1834	Admitted.	1st half.	882	3	1	1	15	5	20	31	61	0	6	122	196	27	0	38	3	0	13	55	0	59	34	0	42	150	707	287 ·694	5 ·948	17 ·114
		2d "	1152	5	3	3	3	1	25	13	58	0	14	145	471	222	0	23	1	1	1	30	0	32	12	0	11	78				
	Died.	1st half.	44	2	1	0	1	0	4	1	13	0	0	4	4	1	0	2	0	0	0	1	0	1	6	0	0	3				
		2d "	77	5	2	1	0	0	0	1	13	0	0	6	13	21	0	4	0	0	0	1	0	2	2	0	0	6				
1835	Admitted.	1st half.	230	1	10	0	0	0	39	9	9	0	12	3	21	2	0	9	0	0	0	21	0	5	14	0	20	55	321	142 ·056	3 ·947	5 ·607
		2d "	226	0	2	1	1	3	11	6	15	0	16	5	54	1	0	11	0	0	0	16	0	2	8	0	11	63				
	Died.	1st half.	9	1	0	0	0	0	0	1	2	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	3				
		2d "	0	0	2	1	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0				
1836	Admitted.	1st half.	142	1	2	0	0	1	18	1	16	0	8	0	15	5	1	8	0	0	0	18	0	6	3	0	2	37	304	79 ·934	8 ·230	6 ·578
		2d "	101	1	0	0	0	0	13	2	6	0	2	0	6	0	0	6	0	0	1	10	0	1	2	0	8	43				
	Died.	1st half.	17	1	1	0	0	0	3	0	2	0	0	0	1	0	0	0	0	0	0	1	0	0	2	0	1	5				
		2d "	3	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1				
1837	Admitted.	1st half.	150	0	1	0	0	0	31	3	7	0	5	0	13	0	0	0	0	0	0	18	9	4	5	0	20	43	306	92 ·156	7 ·801	7 ·189
		2d "	132	1	2	0	0	1	30	8	5	0	4	0	10	0	0	2	0	0	1	20	0	6	9	0	9	24				
	Died.	1st half.	10	0	1	0	0	0	4	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1				
		2d "	12	1	1	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	2	0	2	2	0	0	1				
1838	Admitted.	1st half.	107	0	0	1	0	0	19	3	5	0	2	0	6	1	0	3	1	0	0	20	0	8	3	0	7	28	277	75 ·090	6 ·730	5 ·054
		2d "	101	1	0	0	2	2	16	4	8	0	0	4	4	0	0	5	0	0	2	24	0	4	3	0	6	16				
	Died.	1st half.	6	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	2				
		2d "	8	1	0	0	1	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3				

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Table No. 2.—Europeans—Abstract of the preceding Returns, shewing the total number of admissions and Deaths &c. from 1829 *to* 1838.

		Diseases.																									
	Admissions and deaths.	Apoplexy.	Atrophy.	Beriberi.	Cholera.	Cutaneous diseases.	Delirium Tremens.	Diarrhœa.	Dysentery.	Elephantiasis.	Fever ephemeral.	,, continued.	,, intermittent.	,, remittent.	Guinea Worm.	Hepatic diseases.	Insanity.	Leprosy.	Ophthalmy.	Rheumatism.	Small pox.	Syphilis &c.	Thoracic diseasés.	Ulcer phagedenic.	Wounds & injuries.	Other Complaints.
Aggregate strength. 6,334.																										
1829 to 1838. Admitted. 1st half.	5,729	9	48	24	181	6	137	236	546	0	76	426	386	157	1	329	12	0	61	415	0	435	149	0	377	1718
2d ,,	5,941	20	15	34	145	7	100	249	681	0	70	382	699	340	0	292	8	1	54	367	0	351	147	0	304	1672
Total..	11,670	29	63	58	326	13	237	485	1227	0	146	808	1085	497	1	621	20	1	115	782	0	789	296	0	681	3390
Died. 1st half.	281	6	15	6	52	0	14	9	62	0	0	6	11	6	0	21	3	0	0	8	0	5	13	0	4	40
2d ,,	362	13	9	9	47	0	3	13	101	0	2	11	14	26	0	18	1	0	0	8	0	7	16	0	2	62
Total..	643	19	24	15	99	0	17	22	163	0	2	17	25	32	0	39	4	0	0	16	0	12	29	0	6	102
Average per centage of sick to strength.	184·243	0·457	0.994	0.915	5·146	0·205	3·741	7·657	19·371	0	2·305	12·756	17·129	7·846	0·015	9·804	0·315	0·015	1·815	12·346	0	12·456	4·673	0	10·751	53·520
Do. of deaths to sick treated.	5·509	65·517	38·095	25·862	30·368	0	7·173	4·536	13·284	0	1·369	2·103	2·304	6·438	0	6·280	20·0	0	0	2·046	0	2·046	9.797	0	0·881	3·008
Do. per centage of deaths to strength.	10·151	0·300	0·378	0·236	1·562	0	0·268	0·347	2·573	0	0·031	0·268	0·394	0·505	0	0·615	0·063	0	0	0·252	0	0·189	0·457	0	0·094	1·610

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Table No. 3.—Return of sick of the Native Troops, exhibiting the half yearly Admissions and Deaths, from the principal diseases, and those which have been either Epidemic or Endemic, during the period of ten years, from 1829 *to* 1838.

Years.			Admissions and Deaths.	Apoplexy.	Atrophy.	Beriberi.	Cholera.	Cutaneous diseases.	Delirium Tremens.	Diarrhœa.	Dysentery.	Elephantiasis.	Fever ephemeral.	,, continued.	,, intermittent.	,, remittent.	Guinea Worm.	Hepatic diseases.	Insanity.	Leprosy.	Ophthalmy.	Rheumatism.	Small pox.	Syphilis &c.	Thoracic diseases.	Ulcer phagedenic.	Wounds & injuries.	Other complaints.	Strength each year.	Annual per centage of sick to strength.	Annual per centage of deaths to sick treated.	Annual per centage of deaths to strength.
1829	Admitted.	1st half.	1123	1	0	0	0	0	0	25	19	0	0	8	248	18	0	2	2	0	17	219	0	96	15	0	65	388	6610	34 ·311	3 ·218	1 ·104
		2d ,,	1145	1	1	44	1	0	0	27	21	0	0	7	309	18	0	1	3	0	19	231	2	70	9	0	48	333				
	Died.	1st half.	37	1	0	0	0	0	0	2	5	0	0	0	3	2	0	1	0	0	0	2	0	2	4	0	0	15				
		2d ,,	36	0	1	5	1	0	0	1	2	0	0	1	3	1	0	1	0	0	0	4	1	1	1	0	0	13				
1830	Admitted.	1st half.	1006	0	1	13	2	0	0	21	6	0	0	3	202	13	0	1	2	0	18	188	11	72	14	0	70	369	7282	32 ·353	3 ·480	1 ·127
		2d ,,	1350	1	0	41	1	0	0	22	19	0	12	15	265	55	0	0	3	0	12	224	0	58	16	0	109	497				
	Died.	1st half.	30	0	1	4	1	0	0	1	1	0	0	1	3	1	0	0	0	0	0	3	2	0	4	0	0	8				
		2d ,,	52	0	0	7	1	0	0	3	4	0	0	0	9	3	0	0	0	0	0	4	0	2	4	0	1	14				
1831	Admitted.	1st half.	1325	0	2	17	2	0	0	13	11	0	3	5	227	18	0	1	3	0	16	172	0	71	7	0	90	667	7444	40 ·972	4 ·393	1 .800
		2d ,,	1725	2	2	182	68	0	0	40	21	0	44	7	367	64	0	6	0	0	16	203	0	67	30	0	77	529				
	Died.	1st half.	39	0	3	4	1	0	0	2	2	0	1	1	5	3	0	0	0	0	0	2	0	0	4	0	0	11				
		2d ,,	95	2	1	11	37	0	0	1	3	0	0	1	9	8	0	1	0	0	0	6	0	0	2	0	1	12				
1832	Admitted.	1st half.	1226	2	4	64	84	0	0	19	17	0	26	1	224	30	0	1	5	0	13	131	0	32	10	0	85	478	6987	41 ·935	5 ·973	2 ·504
		2d ,,	1704	1	11	170	171	0	0	29	41	0	125	5	297	56	0	0	0	0	21	192	0	78	14	0	81	412				
	Died.	1st half.	58	2	3	8	29	0	0	0	2	0	0	0	3	1	0	0	1	0	0	2	0	0	2	0	1	4				
		2d ,,	117	1	2	16	66	0	0	0	6	0	0	0	5	3	0	0	0	0	0	3	0	1	2	0	1	11				
1833	Admitted.	1st half.	1952	0	3	58	149	0	0	21	34	0	89	4	353	77	0	7	4	0	29	222	5	126	11	0	115	645	8175	66 ·593	3 ·967	2 ·642
		2d ,,	3492	2	10	117	19	26	0	37	87	0	518	4	1343	199	0	5	2	0	35	229	0	128	15	0	93	623				
	Died.	1st half.	122	0	3	0	66	0	0	2	3	0	1	0	8	9	0	1	1	0	0	2	2	0	3	0	0	12				
		2d ,,	91	1	3	10	11	1	0	1	7	0	0	3	20	5	0	2	1	0	0	8	1	2	5	0	0	13				
1834	Admitted.	1st half.	5017	3	21	03	34	259	0	52	80	0	292	16	2751	112	9	5	12	0	18	347	22	152	37	0	141	591	9302	129 ·187	2 ·097	2 ·709
		2d ,,	7000	2	24	131	15	304	2	76	100	0	476	26	4631	46	11	4	7	0	50	321	3	91	72	0	109	496				
	Died.	1st half.	110	3	0	2	18	0	0	4	18	0	2	1	37	13	0	0	0	0	0	1	1	2	1	0	1	12				
		2d ,,	136	2	3	14	5	0	0	4	14	0	3	5	46	8	0	0	0	0	0	4	0	2	8	0	1	17				
1835	Admitted.	1st half.	3906	0	12	45	0	364	0	38	44	0	195	13	2043	19	5	2	6	5	27	349	2	87	12	0	92	516	8201	100 ·207	1 ·763	1 ·768
		2d ,,	4314	2	8	140	2	323	0	73	72	0	353	27	1714	41	4	7	8	2	46	387	0	73	67	0	141	824				
	Died.	1st half.	64	0	0	4	0	0	0	4	5	0	5	1	29	2	0	2	0	0	0	2	0	0	3	0	1	6				
		2d ,,	81	2	1	15	0	1	0	4	7	0	1	2	21	2	0	1	0	0	1	5	0	5	4	0	1	8				
1836	Admitted.	1st half.	14053	5	29	84	1	536	1	213	431	0	308	175	9124	1128	2	8	12	1	39	508	6	148	69	2	331	892	8805	209 ·835	2 .814	5 ·905
		2d ,,	4423	0	45	88	14	304	4	71	86	0	332	42	2026	28	5	4	3	3	61	343	0	54	45	6	136	723				
	Died.	1st half.	393	3	5	5	0	0	0	23	80	0	0	11	203	24	0	1	1	0	0	8	1	0	6	0	10	12				
		2d ,,	127	0	2	22	7	0	0	3	6	0	2	4	44	2	0	0	2	0	0	11	0	1	4	0	1	16				
1837	Admitted.	1st half.	5808	4	16	76	98	494	5	100	130	0	333	32	2297	60	7	10	10	1	74	568	2	135	63	1	265	997	10697	98 ·073	2 ·900	2 ·757
		2d ,,	4362	3	28	127	46	187	3	63	78	0	509	12	1510	97	14	8	4	0	98	381	3	132	66	1	159	833				
	Died.	1st half.	170	1	4	17	51	0	0	1	10	0	2	8	33	5	0	3	3	0	1	6	0	1	6	0	2	7				
		2d ,,	125	2	6	21	23	0	1	3	5	0	4	5	12	6	0	2	0	0	0	8	0	2	6	0	2	17				
1838	Admitted.	1st half.	3456	0	16	41	149	225	3	51	53	0	395	30	883	33	12	3	3	0	30	329	9	108	53	0	203	827	8303	87 ·426	3 ·168	2 ·770
		2d ,,	3803	2	21	122	36	187	4	43	59	0	634	37	1141	22	4	0	1	0	26	351	12	124	58	0	215	704				
	Died.	1st half.	135	0	5	9	71	0	0	2	4	0	1	1	12	4	0	0	1	0	0	4	0	4	6	0	0	11				
		2d ,,	95	1	3	17	14	0	1	2	5	0	2	2	15	3	0	0	0	0	0	4	4	1	5	0	1	15				

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Table No. 4.—Natives—Abstract of the preceding Returns, shewing the Total number of Admissions and Deaths, &c. from 1829 *to* 1838.

	Diseases.												
	Admissions and deaths.	Apoplexy.	Atrophy.	Beriberi.	Cholera.	Cutaneous diseases.	Delirium Tremens.	Diarrhœa.	Dysentery.	Elephantiasis.	Fever ephemeral.	,, continued.	,, intermittent.
Aggregate strength. 81.806													
1829 to 1838. Admitted. 1st half.	38872	15	134	461	519	1878	9	553	825	0	1641	287	18352
Admitted. 2d ,,	33318	16	150	1162	373	1331	13	481	584	0	3003	182	13603
Total..	72190	31	284	1623	892	3209	22	1034	1409	0	4644	469	31955
Died...... 1st half.	1164	10	24	62	240	0	0	41	130	0	12	24	342
Died...... 2d ,,	958	11	22	138	165	2	2	22	59	0	12	23	184
Total..	2122	21	46	200	405	2	2	63	189	0	24	47	526
Average per centage of sick to strength.	88 ·245	0·037	0·347	1·983	1·090	3·922	0·026	1·263	1·722	0	5·676	0·573	39·061
Do. of deaths to sick treated.	2 ·939	67·741	16·197	12·322	45·403	0·062	9·090	6·092	13·413	0	0·516	10·021	1·646
Do. per centage of deaths to strength.	2 ·593	0·025	0·056	0·244	0·495	0·002	0·002	0·077	0·231	0	0·029	0·057	0·642

	Diseases.												
	,, remittent.	Guinea Worm.	Hepatic diseases.	Insanity.	Leprosy.	Ophthalmy.	Rheumatism.	Small pox.	Syphilis &c.	Thoracic diseases.	Ulcer phagedenic.	Wounds & injuries.	Other Complaints.
Aggregate strength. 81.806													
1829 to 1838. Admitted. 1st half.	1508	35	40	59	7	281	3033	57	1027	321	3	1457	6370
Admitted. 2d ,,	626	38	35	31	5	384	2862	20	878	392	7	1168	5974
Total..	2134	73	75	90	12	665	5895	77	1905	713	10	2625	12344
Died...... 1st half.	64	0	8	7	0	1	32	6	9	39	0	15	98
Died...... 2d ,,	41	0	7	3	0	1	57	6	17	41	0	9	136
Total..	105	0	15	10	0	2	89	12	26	80	0	24	234
Average per centage of sick to strength.	2·608	0·089	0·091	0·110	0· 014	0·812	7·206	0·094	2·328	0·871	0·012	3·208	15·089
Do. of deaths to sick treated.	4·920	0	20·000	11·111	0	0·300	1·509	15·584	1·364	11·220	0	0·914	1·895
Do. per centage of deaths to strength.	0·128	0	0·018	0·012	0	0·002	0·108	0·014	0·031	0·097	0	0·029	0·286

NORTHERN DIVISION.

No. 5.—*Table exhibiting the number of Admissions and Deaths from each class of Disease, for 5 years.*

EUROPEAN TROOPS.

CLASSES.	DISEASES.	From 1834 to 1838. Aggregate strength 1015. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Admissions and deaths from each class of disease. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Total admissions from each class.	Total deaths from each class.	Average annual per centage of sick to strength.	Average annual per centage of deaths to sick.
Fevers......	Febris ephemera	33	0	36	0								
	,, intermit quot.	227	6	451	12								
	,, tertiana......	24	0	04	1	444	13	958	41	1402	54	73 ·211	3 ·851
	,, remittens.....	35	3	223	21								
	,, continua......	125	4	·154	7								
	Cholera	15	1	8	1	15	1	6	1	21	2	1 ·096	9 ·523
Diseases of the abdominal viscera.......	Dysenteria acuta	75	15	83	20	98	18	92	22	190	40	9 ·921	21 ·052
	,, chronica......	23	3	9	2								
	Diarrhœa.......	47	2	33	2								
	Colica..........	8	1	3	0								
	Obstipatio......	8	1	8	0								
	Hæmorrhois....	24	0	20	0	147	6	122	3	269	9	14 ·047	3 ·345
	Enteritis........	2	0	6	0								
	Peritonitis......	0	0	0	0								
	Gastritis........	0	0	5	1								
	Dyspepsia......	58	2	47	0								
	Hepatitis acuta.	41	2	19	1	58	2	47	4	105	6	5 .483	5 ·714
	,, chronica......	17	0	28	3								
Diseases of the Lungs and Heart	Catarrhus	13	2	0	0								
	Asthma	4	0	8	1								
	Phthisis pulmonalis..........	3	3	5	5								
	Hæmoptysis.....	1	1	0	0	60	11	34	6	94	17	4 ·908	18 ·085
	Pleuritis........	0	0	1	0								
	Pneumonia......	38	5	5	0								
	Carditis	0	0	0	0								
	Palpitatio	2	0	2	0								
	Dyspnœa.......	1	0	4	0								
Diseases of the Brain.	Apoplexia......	6	5	7	7								
	Epilepsia.......	12	0	3	0								
	Paralysis.......	22	0	21	5								
	Cephalalgia	17	0	17	1								
	Phrenitis........	0	0	0	0								
	Ictus solis......	0	0	0	0	188	17	144	14	332	31	17 ·336	9 ·337
	Amentia........	1	0	1	0								
	Mania..........	3	0	0	0								
	Hydrophobia...	0	0	0	0								
	Delirium Tremens.........	24	7	18	1								
	Ebrietas.........	103	5	77	0								
Diseases of the Eye..	Morbi oculorum...........	14	0	5	0	14	0	5	0	19	0	0 ·992	0
Do. ,, Skin	,, cutis.......	0	0	7	0	6	0	7	0	13	0	0 ·678	0
Eruptive Fevers......	Variola.........	0	0	0	0								
	Varicella........	0	0	0	0								
	Rubeola.........	0	0	0	0	·0	0	1	0	1	0	0 ·052	0
	Scarlatina......	0	0	0	0								
	Erysipelas......	0	0	1	0								
Dropsies....	Anasarca.......	16	4	10	1								
	Ascites.........	2	0	2	0	19	5	12	1	31	6	1 ·618	19 ·354
	Hydrothorax....	1	1	0	0								
Rheumatic affections.	Rheumatismus acutus........	52	2	50	2								
	,, chronicus....	81	1	50	1	133	3	100	3	233	6	12 ·167	2 ·575
	Neuralgia......	0	0	0	0								
	Odontalgia......	0	0	0	0								
Venereal affections..	Syphilis primitiva..........	14	1	12	2								
	,, consecutiva...	1	0	4	1								
	Gonorrhœa.....	56	0	22	1	82	1	45	4	127	5	6 ·631	3 ·937
	Hernia humoralis..........	11	0	6	0								
	Strictura urethræ..........	0	0	1	0								
Specific diseases.....	Atrophia........	13	2	7	5								
	Beriberi.........	2	0	4	2								
	Elephantiasis...	0	0	0	0								
	Lepra..........	0	0	1	0								
	Dracunculus....	1	0	0	0	19	3	15	8	34	11	1 ·775	32 ·352
	Ulcus phagedenicum........	0	0	0	0								
	Scrophula......	0	0	1	0								
	Scorbutus......	3	1	2	1								
Punishment.	Punitus........	2	0	2	0	2	0	2	0	4	0	0 ·208	0
Wounds and injuries...	Fractura........	0	0	4	0								
	Luxatio.........	3	0	1	0								
	Subluxatio......	1	0	10	0								
	Vulnus sclopitorum........	1	0	0	0	81	2	45	0	126	2	6 ·579	1 ·587
	,, incisum......	7	0	2	0								
	Contusio	68	2	27	0								
	Ambustio	1	0	1	0								
Other diseases, including Phlogosis, Ulcus, &c..............		145	4	77	2	145	4	77	2	*222	+6	11 ·592	2 ·702
	Total.......	1511	86	1712	109	1511	86	7112	109	3223	195	168 ·302	6 ·050

Per centage of deaths to strength during these five years, has been 10·182.

* Of this number were

Phlogosis...............	43	2
Do. Do. Ulcus.........	140	2
Do. Do. Bubo simplex.	18	0
Total.......	201	4

+ The deaths under this head, include besides those accounted for in the preceding note, one from diabetes, and one from dysuria.

NORTHERN DIVISION.

No. 6.—*Table exhibiting the number of Admissions and Deaths from each class of Disease, for 5 years.*

NATIVE TROOPS.

CLASSES.	DISEASES.	From 1834 to 1838. Aggregate strength 45.308				Admissions and deaths from each class of disease.				Totaladmissions from each class.	Total deaths from each class.	Average annual Per centage of sick to strength.	Average annual per centage of deaths to sick.
		1st Half.		2d. Half.		1st Half.		2d. Half.					
		Ad.	Dd.	Ad.	Dd.	Ad.	Dd.	Ad.	Dd.				
Fevers......	Febrisephemera	1527	10	2304	12								
	,, intermit.quot.	16482	318	10424	135								
	,, tertiana......	616	2	598	3	20243	400	13804	189	34047	589	75 ·145	1 ·729
	,, remittens.....	1352	48	334	21								
	,, continua.....	266	22	144	18								
	Cholera........	282	143	113	49	282	143	113	49	395	192	0 ·871	48 ·607
Diseases of the Abdominal Viscera......	Dysenteriaacuta	598	87	346	32								
	,, chronica......	136	30	49	5	734	117	395	37	1129	154	2 ·491	13 ·640
	Diarrhœa.......	454	34	326	16								
	Colica..........	167	2	192	2								
	Obstipatio......	128	0	174	4								
	Hœmorrhois....	39	1	35	0								
	Enteritis.......	2	2	3	3	1042	46	1077	29	2119	75	4 ·676	3 ·539
	Peritonitis.....	0	0	0	0								
	Gastritis........	1	1	3	0								
	Dyspepsia......	251	6	344	4								
	Hepatitis acuta.	25	5	20	3								
	,, chronica......	3	1	3	0	28	6	23	3	51	9	0 ·112	17 ·647
Diseases of the Lungs and Heart	Catarrhus......	114	3	115	9								
	Asthma........	52	4	123	6								
	Phthisis pulmonalis.........	8	5	19	9								
	Hœmoptysis....	7	1	4	0								
	Pleuritis........	0	0	0	0	263	21	309	27	572	48	1 ·262	8 ·391
	Pneumonia.....	53	4	20	1								
	Carditis........	1	0	1	0								
	Palpitatio......	0	0	1	0								
	Dyspnœa.......	28	4	26	2								
Diseases of the Brain.	Apoplexia......	12	7	9	7								
	Epilepsia.......	5	0	7	1								
	Paralysis.......	34	4	31	3								
	Cephalalgia....	59	0	31	1								
	Phrenitis.......	1	0	0	0								
	Ictus solis......	0	0	0	0								
	Amentia........	14	2	9	2	163	16	115	17	278	33	0 ·613	11 ·870
	Mania..........	29	3	14	0								
	Hydrophobia ..	0	0	1	1								
	Delirium tremens.........	9	0	13	2								
	Ebrietas........	0	0	0	0								
Diseases of the Eye..	Morbi oculorum	190	1	281	1	190	1	281	1	471	2	1 ·039	0 ·424
Do. Skin.	,, cutis......	1880	0	1405	1	1880	0	1405	1	3285	1	7 ·250	0 ·030
Eruptive fevers......	Variola.........	41	2	18	4								
	Varicella.......	258	0	39	0								
	Rubeola........	21	1	42	1	326	4	114	5	440	9	0 ·971	2 ·045
	Scarlatina......	0	0	0	0								
	Erysipelas......	6	1	15	0								
Dropsies....	Anasarca........	110	12	90	15								
	Ascites.........	6	1	11	1	116	13	102	17	218	30	0 ·481	13 ·761
	Hydrothorax...	0	0	1	1								
Rheumatic affections.	Rheumat acutus	1187	11	952	14								
	,, chronicus....	914	10	831	18								
	Neuralgia.......	0	0	0	0	2104	21	1797	32	3901	53	8 ·609	1 ·358
	Odontalgia.....	3	0	14	0								
Venereal affections..	Syphilis primitiva..........	365	3	244	5								
	,, consecutiva	25	3	29	2								
	Gonorrhœa......	105	1	94	1								
	Hernia humoralis............	130	0	96	2	640	7	477	11	1117	18	2 ·465	1 ·611
	Strictura urethræ..........	15	0	14	1								
Specific diseases.....	Atrophia.......	124	14	126	15								
	Beriberi........	309	37	608	89								
	Elephantiasis...	0	0	0	0								
	Lepra..........	7	0	5	0								
	Dracunculus....	35	0	38	0	500	51	808	106	1308	157	2 ·886	12 ·003
	Ulcus phagedenicum.........	3	0	7	0								
	Scrophula......	22	0	22	2								
	Scorbutus......	0	0	2	0								
Punishment	Punitus.........	21	0	20	0	21	0	20	0	41	0	0 ·090	0
Wounds and injuries ..	Fractura........	18	0	7	0								
	Luxatio........	9	0	3	0								
	Subluxatio.....	92	2	96	0								
	Vulnus sclopitorum..........	137	10	53	2	1032	14	760	6	1792	20	3 ·955	1 ·116
	,, incisum......	167	1	130	2								
	Contusio.......	564	1	423	2								
	Ambustio......	45	0	48	0								
Other diseases, including Phlogosis, Ulcus, &c............		2676	18	2302	34	2676	18	2302	34	*4978	†52	10 ·987	1 ·044
	Total....	32240	878	23902	564	32240	878	23902	564	56142	1442	123 ·911	2 ·568

Per centage of deaths to strength during these five years, has been 3·182.

* Of this number were

Phlogosis.............	2640	14
Do. Do. Ulcus.......	1418	11
Do. Do. Bubo simplex.	494	4
Total......	4552	29

† The deaths under this head include, besides those accounted for in the preceding note, five from tetanus, four from splenitis, three from cynanche, two from vermes intestinorum, one from diabetes, one from fistula, in ano, one from cystitis, one from hernia, one from hæmatemesis, one from icterus, and one from laryngitis; the remaing two are not particulhurized.

treated 2·939, and of deaths to strength 2·593. In the year 1836, the sickness and mortality were greatly above the average, occasioned solely by fever, from which the native troops employed in the Goomsoor campaign, during that year, suffered very severely.

The admissions and deaths are most numerous in the first half yearly period, and chiefly from acute disease, with the exception of beriberi, which prevails most during the latter months of the year. It is thought proper to give here a few remarks on *beriberi*, and also a few observations on the *jungle or bilious remittent fever* of Goomsoor.

Beriberi. The disease called *Beriberi*, being endemic at the several stations on the coast, throughout the Northern Division, from the Kistnah river to the Chilka lake, a short account of it may appropriately be given in this place; and the following observations are taken from an unpublished essay on the disease, forwarded to the Medical Board in the year 1831.

The word Beriberi is derived from the Hindoostanee name of a sheep (*b,here,*) from a fanciful notion, that persons affected with the disease, walk like a peculiar species of that animal, i. e, with a kind of jerking motion—but the name by which it is known, to the Gentoos of the coast, *Ooboowaioo,* simply means, rheumatism combined with dropsical swelling.

This disease, though endemic in many situations, frequently appears also as an epidemic, after the setting in of the rains, or from July to the close of the year, when fevers, dysenteric complaints and cholera also break out, to a greater or less extent annually—and they would all seem, to have a common origin, viz. malarious exhalation, though modified in the several forms of the diseases enumerated.

The stations of Chicacole, Samulcottah and Berhampore, which are low, damp and more or less swampy, appear to suffer more than the other towns in the division, though none of the stations, whatever may be their position,

are wholly exempt from it. And it is found in all situations more or less, and at all seasons of the year, and extends it is said, to about 40 miles inland.

Natives appear to suffer from beriberi more than Europeans, and the inhabitants of the coast more than those of inland situations; the sepoys, natives of the upper provinces of Bengal, frequently escaping altogether, whilst amongst the coast-men it was prevailing extensively. Relapses are of very frequent occurrence, coming on usually at the close of the monsoon.

Beriberi appears to be a disease of middle life, and instances of its occurrence under the age of 17 years, or above 50, are very rare, and no cases have been seen in females, though doubtless, they must suffer from it as well as the other sex, though perhaps in a less degree.

The disease occurs both in an acute and chronic form; the acute form of beriberi, being usually attended by fever, of an intermittent type, and of 4 or 5 days duration, whereas, the chronic form is more frequently the sequela of rheumatism, or of fever, either of the intermittent or remittent form.

Acute form of Beriberi.

Beriberi of the acute form, whether preceded by an attack of fever, or suddenly appearing without premonitory symptoms, is characterized by swelling of the extremities, both upper and lower, but more particularly of the legs, which pit on pressure, with numbness of the integuments of the swollen parts, extending upwards; and there is frequently paralysis of the feet and legs, and of the hands and fore arms, which rarely however extends to the trunk. The muscles of the limbs to the patient's feelings are tense, and there is an extreme sense of lassitude, and indisposition to use any exertion.

The more urgent form of the disease, which frequently attacks persons of robust frame, and previously in the enjoyment of good health, is usuallly attended with extreme dyspnœa, and a feeling of anxiety and throbbing at the precordia; there is also great anxiety expressed by the counte-

nance, the pulse is from 100 to 120, full and bounding, and it imparts a peculiar thrilling sensation to the finger, as does also the action of the heart, on the hand being placed on the chest; cases of this form of the disease usually terminate in sudden death, often occurring after slight exertion, from effusion into the pericardium, or into the cavity of the thorax; the urine is always high coloured and scanty in such cases.

When not of so urgent a character as that just described, paralysis of the legs and arms begin to be manifest after a few days, the limbs lose their power, and the patient can neither carry his hands to his mouth, nor can he stand without support, if placed in the erect posture; and in making an endeavour to walk, the limbs which yield to the weight of the body, and bend backwards, are raised with the peculiar jerk, before alluded to.

A patient in this state, if unsupported, instantly falls to the ground in a sitting posture, and however far the disease may have progressed, the paralysis never extends to the muscles of the trunk, and the sitting posture can consequently always be preserved; neither has the dropsical swelling been found to extend to the integuments of the trunk, or to terminate in ascites.

Another, and frequently a distressing symptom, is pain in the muscles of the lower limbs, complained of generally as being most severe in the tendo Achillis; and though not often witnessed in native patients, European subjects, suffer from constant and severe spasms of the limbs.

The post mortem appearances, have been found to be slight effusion into the cavities of the chest, with œdema of the lungs throughout, the structure of the heart is found to be natural; the right side being filled with dark blood, the left empty; the liver engorged with dark blood, and in some cases great anæmia of the kidneys. Effusion of a ropy serum into the pericardium is also a common morbid result.

Chronic form of Beriberi.

The chronic form of Beriberi as before stated, is usually the sequela of rheumatism or fever, though it oc-

casionally comes on insidiously. The most prominent symptom being partial paralysis of the extremities, both upper and lower, commencing in the hands and feet, and extending towards the trunk, which is succeeded by wasting of the solids, and ultimately by anasarcous swellings of the limbs, and effusion into the chest and pericardium. This form of the disease may exist for several months, and recovery in such cases is extremely slow, and where death follows, the unfortunate sufferer is usually reduced to an extreme state of emaciation and helplessness, the power of the limbs being completely lost.

The various functions of the body continue to be performed regularly, though imperfectly, and with considerable loss of tone; the pulse is small and weak, ultimately becoming a mere thread, when felt at the wrist, and it often happens that the only complaint made by the unfortunate sufferer, is of pain in the lower extremities, the muscles of the calves of the legs and tendo Achillis, being the chief seat of the uneasiness.

The spongy state of the gums, indicating a scorbutic condition of the system, which has been said by some to exist in this disease, has not been seen, though enquiry was particularly directed to that point; but there is no doubt that in many cases a cachectic state is present, which is followed by atrophy, and extreme debility.

Neither has the inflamed or congested state of the spinal canal, noticed by* Malcolmson been witnessed, though the condition of the spine has been carefully examined, by means of pressure and percussion—and enquiry as to the existence of pain along the spine, has failed in eliciting any proof of the existence of irritation, or inflammation of the spinal nerves.

Treatment. In the acute form of beriberi as above described, the most active antiphlogistic treatment is often called for, at the commencement of an attack, and by which alone a fatal termination can be prevented. If a patient therefore, who after an illness of a day or two, perhaps only of a few hours

* Essays on beriberi, 1835 p. 113.

duration, is seen to be suffering from urgent dyspnœa, with a feeling of anxiety at the precordia, having a full bounding or throbbing pulse, and whose face probably appears bloated, or œdematous, from 12 to 18 ounces of blood should immediately be abstracted, and the bowels freely acted on by an active cathartic; ʒi. of compound jalap powder, or calomel with jalap. After which, calomel with squills, should be given and continued until the system is brought fully under the influence of the mercury, when in most cases a decided improvement usually takes place.

Calomel gr. ij. to iij. Pulv. scillæ gr. ii. to iii. with aromatic confection to be taken every 4th hour.

In natives, it is rarely requisite to repeat the V. S, if the first bleeding be sufficiently copious, to relieve the oppressed condition of the circulating system. The bowels should be kept free, by occasional aperients throughout the treatment, and to assist the diuretic action of the medicine, drink acidulated with the supertartrate of potash, may be allowed and this plan of treatment must be persevered in, till the inordinate action of the heart and arteries is subdued, which will be found to succeed on the first appearance of the mercurial action being established in the system; should the dropsical effusion at any time show a tendency to increase a draught consisting of,

Tincturæ digitalis ♏ x
,, Scillæ ♏ xx
Spiritus ætheris nitrici ʒss
Aquæ menthæ piperitæ ℥i may be given thrice in the day

Should the patient complain of spasms, or rheumatic pains in the limbs, or should the calomel act more on the bowels than is desirable, dovers powder may be ordered at bed time, or a small quantity of the extract of opium, may be added to the pills. Frictions to the limbs with stimulating embrocations, and foot baths in which the root of the morunga tree* has been boiled, will be found to afford relief; and during convalescence, or where a tendency to febrile exacerbations occur periodically, much benefit will result from the use of the sulphate of quinine, in small

* Hyperanthara Moringa an excllent substitute for the *radix armoraciæ*.

doses, or occasional antimonials, in addition to the other remedies employed.

During convalescence the greatest benefit will be found from the effect of change of climate, which should be resorted to in every case in which it may be practicable.

The diet should be light and nutritious.

In chronic beriberi, whether succeeding to other diseases, or appearing as a specific complaint, the symptoms are rarely of so urgent a character as to call for the use of the lancet, though if the breathing be oppressed, and there is also much vascular excitement, the abstraction of a few ounces of blood will be found to afford decided relief.

The constitutional treatment should be commenced by an alterative course of the blue pill, combined with diuretics; the bowels which are often torpid should be kept free by some mild aperient, for which purpose rhubarb in the well known compound, called "Gregory's powder," answers well; — it will, in cases of this nature, seldom if ever be requisite to push the mercury to the extent of causing salivation.

Acting on theoretical views, leeches have frequently been applied over different parts of the spine, and blisters, have been repeatedly placed over the same region, without it is believed, any benefit resulting from these measures.

The local means to be used are frictions to the limbs, with camphorated oil and terpentine, and the warm stimulating foot baths before mentioned.

The rheumatic symptoms also require attention, and benefit will in some cases be found to result, from the use of the pulv. ipecac comp. or compound guaiac electuary.

The diet may be generous, light and nutritious, and to those accustomed to stimulants, wine or spirits in limited quantity may be allowed, with any appropriate tonic during convalscence, the best of which is sulphate of quinine, with sulphuric acid.

The native remedies *black oil*, and *treeak-farook* having been employed extensively, in the chronic form, and during convalescence from beriberi, or after the stage of excitement has been removed, and in many cases with considerable advantage, may here be briefly noticed.

The oleum nigrum, a black empyreumatic oil, is obtained by distillation per descensum, by means of a strong fire, from a combination of spices, with the seeds of the malcungrunny, and gum benzoin. It is given in doses of from 5, increased to 30 drops, 3 times during the day, and is usually taken by the natives made into a bolus with aromatic confection, or taken on a betel leaf; the diet observed by them during its use, is entirely farinaceous, as wheaten bread, or cakes, and made without salt. The action of the oil appears to be that of a stimulant, it is also diuretic, and produces a feeling of internal heat, attended with high coloured urine, and in some cases suffusion of the conjunctivæ, but it has no apparent effect either on the bowels or skin.

The treeak-farook, a remedy said to be imported to this country, from the shores of the Red sea, and Persian gulph, is obtained in most bazars throughout India, but is supposed to be often spurious; it is said to consist of a farrago of various spices and stimulants, and is given combined with rhubarb, in the proportion of about 1 part, treeak-farook to 7 of rhubarb, made into an electuary, or bolus, with honey, the dose being the size of a nutmeg every morning; it usually acts as a purgative or laxative, in addition to which some patients complain of a feeling of internal heat, in the chest and abdomen, and after continuing its use for 3 or 4 days, it often causes a good deal of irritability, with increase of the pulse; and a feverish heat of skin; two patients complained of its having caused them to pass bloody urine, this however occurred only once in each person, and the correctness of the statement could not be satisfactorily ascertained, and the appearance may have been owing to the effect of the rhubarb. It is usual with natives to take this medicine

for 9 days, and then to omit it for the same length of time, and so to continue it in successive alternations, as long as necessary.

The diet recommended by the natives was observed whilst using these remedies, and consisted of milk and farinaceous food, such as wheaten bread without salt, and abstinence from meat.

Goomsoor fever. A rebellion having broken out in Goomsoor, a country belonging to an independent chief, lying at the north-western part of this division, it was found necessary at the end of the year 1835—to send a force amounting to nearly 7000 native troops, into the disturbed districts, where was employed until the end of the following year.

Goomsoor, through which the continuation of the western ghauts runs at a distance of about 45 miles from the coast, may be divided into the upper and lower country That portion lying at the foot of the ghauts, in which the troops were chiefly employed, is covered with dense jungle, (principally of bamboos) where fever of a deadly character prevails, and which occasioned a great mortality both in officers and men.

The table land above the ghauts, here rising to the height of from 1500 to 2,000 feet, above the level of the sea, is more open and is found to have a cool and bracing climate;the inhabitants are a savage race,(called "Khonds") and the country itself affords but little in the way of supplies necessary for the wants of an army.

The following extracts from a report by the Superintending surgeon of the division, in which are embodied the opinions of several of the medical officers, of the force, respecting the character of the fever, which so extensively prevailed in Goomsoor, contain some interesting remarks; but as no troops have occupied the country since 1836, with the exception of one native corps at the station of Russel-condah on the eastern boundary of the district, it has not been considered necessary to enter more into detail respecting the history of the disease.

The sickness and mortality in Goomsoor in 1836, having considerably influenced the results shown in the general tables of diseases,both of the division and of the Army at large, it has been considered desirable to advert to it briefly in this place.

Extract from the report of the Supg. Surgeon Northren division December 1836

"It now remains that I should give an account of the fever which has proved so nearly universal, and so severe, to all those exposed to its causes. The symptoms vary in different situations, and in different constitutions; but it is, for the most part such as I saw it, at Nowgaum, a fever of debility, and congestion, mainly affecting the head; and caused by endemic poison. Mr. McKenna says," "It is difficult to give any satisfactory reasons for that want of energy, extreme debility and mental depression, which characterized almost every case; the febrific miasm acting equally upon the nervous, and sanguiferous systems, exhausting in a short space of time, the whole stock of sensorial power." Mr. Kellie says, "It was characterized by entire and frequently immediate prostration of strength, skin preternaturally cold and damp, pulse small and rapid, and frequently weak, tongue sometimes furred, always foul and in some instances florid, voice in many instances sepulchral, patient inclined to doze; complete reaction but in few instances followed the above symptoms;" speaking of the Durgurpersaud fever Mr. Kellie says "the head was invariably the organ chiefly affected." Mr. Porteous says "the symptoms complained of by the patient on admission, were, great langour and lassitude, pain over the whole body, head-ache, thirst, great prostration of strength, oppression, shortness and difficulty in breathing with a foul tongue and parched fauces, and cold chills over the whole body, in many cases amounting to rigors, the patient continued in this state for a longer or shorter period, and then followed the hot and sweating stages of fever, after which he felt much better, but weak and depressed" such however was not always the asthenic character of this

fever." Mr. Eyre says "among the sepoys of the 50th regiment Native infantry who came into the field, for the most part, strong and in high condition, found more strength of action, the pulse generally hard and full; besides the symptoms above enumerated there was commonly conjestion of the liver, of the lungs, and indeed universal internal conjestion, the urine scanty and high coloured, the excretions from the bowels of all colours, the tongue presented various appearances, one of which was a bright red glazed surface, as if the papillæ had been completely obliterated, it was also frequently overspread with a coating, like white paint, or a thick composition of chalk and water; either laid on in patches, or in longitudinal streaks: where free from this coating, the glossy surface before described, appearing."

"The type of this fever was usually intermittent and quotidian, often times however remittent, and at others, continued, with a low typhoid character; long protracted or repeated attacks of fever frequently terminated in dysentery, or looseness, caused by irritation of the mucous coat of the intestines; and these were mostly fatal cases. The subjects of this fever frequently became œdematous and dropsical, before the fatal termination. Among Europeans, the symptoms were usually more violent, with greater determination to the head, and more strength of arterial action."

"The treatment varied, according to the several forms of the fever; leeches and cold lotions to the head, emetics, and purgatives, calomel, antimonial powder, ipecacuanha, tartar emetic, in appropriate doses, were given during the presence of fever, sponging the body with vinegar and water, and cold effusions were used. When intermissions or remissions of the fever were present, bark, and quinine, alone, or variously combined with stimulants, or laudanum, were exhibited, the quinine was given in doses of from two to thirty grains. Mr. Eyre went as far as thirty grains, for a dose, I cannot however think that these large doses, were benefical. Where there was greater strength of arterial action, as among Europeans,

and in the sepoys of the 50th and some others, the lancet was employed; and from ten to twenty ounces of blood, taken from the arm."

Cholera prevailed in an epidemic form in 1832, 1833, 1837 and 1838, and partially in 1831. The disease attacked the 12th regiment N. I. while marching through the division to Jaulnah in January 1832, and carried off 23 men out of 74 affected ; in November and December in the same year, the 49th regiment while stationary, lost 24 men out of 70 attacks. Again in the month of January 1833, the 43d regiment N. I. while marching from Secunderabad lost 15 men out of 24 attacked; and in the following month (February) the 14th N. I. while marching to Cuddapah buried 17 men, 46 having been attacked; in the month of March in the same year, the 8th regiment N. I. stationed at Vizianagrum, lost 10 men from 22 attacked ; again, out of the number of admissions and deaths from cholera in the first half of the year 1837, no less than 35 attacks and 20 deaths occurred in the 6th regiment N. I. at Vizianagrum ; and lastly in Janury and February 1838, the 27th N. I. buried 70 men out of 148 attacks while marching from Bangalore to Samulcottah ; the disease had almost entirely ceased before entering the Northern division.

The tabular statements No. 7 and 8, exhibit at one view, as in the preceding divisions much interesting information, relative to the most important diseases amongst both European and native trops.

Tables No. 5 and 6, exhibit the admissions and deaths from each disease in the various classes therein given, as in the preceding reports, for the period of five years from 1834 to 1838 inclusive. The total sick from each class is also shewn, with the mortality, and the per centage of admissions to strength, and of deaths to sick treated.

Amongst the European troops, (Table No 5) the greatest number of admissions have been from the class of *fevers*, *bowel*

complaints including *hepatitis, rheumatic affections venereal complaints, and wounds and injuries* ; the most fatal have been *fevers, bowel complaints, diseases of the brain and of the lungs.* The per centage of sick to strength, during the five years has been 168·302, of deaths to sick treated 6·050, and of deaths to strength 10·182 ; thus differing but little in these respects, from the results shewn in the preceding table for ten years.

The corresponding table for the native troops, (No. 6) gives 123·911, as the number of admissions annually for every 100 men, and 2·568 per cent of deaths, to the sick treated, while the per centage of deaths to strength during the same period has been 3·182 ; the total admissions being 56142, with 1442 deaths, from an aggregate strength of 45308 men. The greatest mortality has been produced by *fevers, cholera, bowel complaints, beriberi and rheumatism ;* the greatest number of admissions have been from the same classes of disease, along with *cutaneous and venereal affections.*

The tabular statements No. 9 and 10, have been framed from these two tables, in the same way as in the preceding reports, and exhibit at one view the proportion and the per centage of admissions and deaths from the principal classes of disease.

NORTHERN DIVISION.

Statement shewing the extent of accommodation, diet, &c. in the several Jails.

STATION.	Number of prisoners the prison is capable of containing in separate sleeping cells.	Number of prisoners the prison is capable of containing where more than one prisoner sleeps in one cell.	Dietary or other weekly allowance and weekly cost per head.	Allowance of clothing and bedding, and cost per head.	Description of employment and hard labour.	Hours of labour, and of exercise.
MASULIPATAM.	None.	280 males and 24 females.	1 Seer of rice per day with 4 pice for condiments average weekly cost per head about 6 annas.	2 cloths of 3 yards each, 1 cumbly and 1 cap yearly; mats for sleeping on whenever required annual cost per head about 1 rupee and 6 annas.	Road making street cleaning, &c.	In moderate weather from 7 to 11 A. M. and 2 to 6 P. M. but during the hot weather from 6 to 10 A. M. and from 3 to 5 P. M.
RAJAHMUNDRY.	None.	420	1 Seer of rice and 4 pice daily for a male prisoner and to every female prisoner ¾ seer, and 4 pice. Average weekly cost to a male about 8 annas and a female 6 annas 8 pice: Boys receive the same as men.	Male prisoners are allowed two cloths, a mat, and a cumbly. Annual cost 15 annas 4 pice. Female prisoners receive a cloth of the value of 6 annas: every half year, bedding the same as the male prisoners.	Working on the roads and at the repairs of the court house cutting down fort walls, and filling the ditch, cleaning the streets of the town &c.	From the 14th April to 15th June 1841 the prisoners work from 6 to 11 A. M. and from 3 till 5 P. M. after which they wash in the river, both before and after the above dates, they work from 8 to 12 A. M. and 1 to 5 P. M. on Sundays permitted to walk about on the jail compound.
VIZAGAPATAM.	One.	270 Conveniently.	One Seer of rice and 4 pice per day, the same for men and women. Weekly cost 8 annas and 2 pice.	2 Pieces of cloth of 6 cubits each and 1 cumbly for a male prisoner every year—annual cost 1 rupee 12 annas 2 pieces of cloth 12 cubits each for a female prisoner 2 rupees and cumbly 12 anuas.	Sentenced prisoners work on the high roads, and security prisoners in or about the jail.	From 8 A. M. till 4 P. M. daily and Sundays excepted.
CHICACOLE.	Ten.	350 Conveniently.	¾ Of a seer of rice and 6 pice for condiments daily.	Two pieces of cloth of 6 cubits each, and one cumbly every year.	Convicts labour on the roads, aud in the maufacture of paper and bricks.	From 8 A. M. till 4 P daily. Sundays excepted.

NORTHERN DIVISION.

Table shewing the number of Persons successfully vaccinated from 1829 *to* 1838 *inclusive.*

DISTRICT OR STATIONS.	Class and sex of Patients.						Total vaccinated.	
	Christians.		Hindoos.		Mahomedans.			
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
Ganjam	64	57	9,466	7,611	144	72	9,674	7,770
Vizagapatam	211	163	8,613	7,388	106	54	8,930	7,605
Injeram and Madepollum	27	29	15,345	11,107	96	89	15,468	11,225
Rajahmundry	26	31	15,461	10,853	220	128	15,707	11,012
Masulipatam	161	118	9,165	8,587	781	454	10,107	9,159
Total	489	398	58,050	45,576	1347	797	59,886	46,771

Number of Vaccinators in each District.

	1st Class Vacciuators.	2d Class Vaccinators.
Ganjam	1	3
Vizagapatam	1	3
Injeram and Madepollum	1	3
Rajahmundry	1	3
Masulipatam	1	3
Total	5	15

The number vaccinated in this Division, during these ten years is 1,06,657; the whole expense incurred, amounts to Rupees 44,940 which gives an average of about Rupees 42—2 per hundred, or ten pence per head in English money.

APPENDIX.

Meteorological Observations, made at Masulipatam in 1843.

	Barometer.			Thermometer.				Amount of rain.	Number of days on which rain has fallen.	Prevailing Winds.	
	Mean Maxim.	Mean Minim.	General Mean.	Mean Maxim.	Mean Minim.	General Mean.	Mean daily range.	Inches.	Days.	A. M.	P. M.
January	30 ·14	29 ·97	30 ·05	81	71	76	7	1.02	2	N. E.	S. E.
February	30 ·97	29 ·97	30 ·06	82	71	76 ·5	8 ·25	0	0	N. E.	S. S. E.
March	30 ·02	29 ·86	29 ·94	86 ·5	75	80 ·5	7	0	0	S. S. E.	S. E. by E.
April	30 ·02	29 ·84	29 ·93	90	77	83 ·5	8	0.25	1	S. S. W.	S. S. W.
May	29 ·87	29 ·16	29 ·51	92 ·5	79 ·5	86	6 ·5	3.09	8	S. W.	S. S. E.
June	29 ·83	29 ·65	29 ·74	92	80	86	5 ·75	2.50	10	N. W.	S. W.
July	29 ·81	29 ·61	29 ·71	87	78	82 ·5	4	7.31	15	N. W.	W. S. W.
August	29 ·88	29 ·68	29 ·78	89	79	84	6	7.15	13	N. W.	S. W.
September	29 ·94	29 ·73	29 ·83	90	79	84 ·5	6	1.69	8	N. W.	S. E.
October	30 ·06	29 ·72	29 ·89	85	76	80 ·5	3 ·5	7.42	17	N. E.	S. E.
November	30 ·06	29 ·94	30 ·00	83	71	77	8 ·5	0	0	N. E.	S. E.
December	30 ·16	29 ·96	30 ·06	79	70	74 ·5	7 ·5	6.10	5	N. E. & N. W.	E. S. E.

Meteorological Register, Berhampore. 1827.

May.

Date.	Thermometer degrees. 9 A. M.	Noon.	4 P. M.	Wind.	Remarks.
1	80	87½	0	S. & N. W,	At 4 P. M. a strong north-wester with rain.
2	78	88½	90	S.W. by W.& S.	Fair.
3	82½	88	0	S.	,,
4	84	90	88	S.	,, Calm.
5	83	88	0	W. S.	Calm and Cloudy.
6	84	92	88	S.	,, ,,
7	82	90½	88		,, ,, afternoon clear.
8	85	91	90	S.	Clear.
9	86	90	88	S. S. W.	Cloudy.
10	84	86	84	S.	Clear.
11	86	88	86		,,
12	85	95	91	S. W.	,, and Calm.
13	89½	89½	95	W. S. W.	Hot wind in afternoon, heat oppressive.
14	92	99	98	W. N. W.	,, ,, ,,
15	94	98	94	W.	,, ,, ,,
16	98	96	91½	S. W. &. S.	
17	92	94	91	W.	Hot land wind under wet tatties.
18	92	94	0	W.	,, ,,
19	90	93½	96	E. &. S. E.	
20	89	94½	94	S. E. &. S.	
21	88	93	90	S. &. S. W.	
22	88	90	88	S.	
23	88	90	84	S. by N. W.	Cloudy, a north wester with heavy rain at 3 P. M. during which Ther. fell to 80°.
24	84	88½	86	E. S. E.	
25	84	90	88	E. S. E.	
26	83	93	84	E. S. E. by N.W.	3 P. M. a north-wester with rain.
27	86	95	0	S.	Much lightning in afternoon, no rain.
28	86	96	0	S.	,, ,, ,, ,,
29	84	95	0	S.	
30	88	94	0	S.	
31	88	91	0	S.	

Thermometer highest between 2 and 3 P. M.

June.

Date.	Thermometer degrees. 9 A. M.	Noon.	4 P. M.	Wind.	Remarks.
1	86	92	0	S.	Cloudy.
2	84	90	93	S. & S. E.	,,
3	89	92	0	S. E.	,,
4	0	94	0	S. E.	Clear.
5	88	94	0	S.	,,
6	86	92	91	S.	,,
7	84	90	90	S.	Cloudy, rain at night.
8	0	94	0	S.	Clear.
9	82	86	0	Calm.	Cloudy with occasional showers.
10	88	87	0	S.	Squally with rain—much thunder.
11	84	89	0	S.	
12	84	87	84	S.	
13	85	90	86	S.	
14	87	91	0	S.	Heavy rain at night.
15	86	91	0	S.	Clear.
16	84	91	0	S.	,,
17	85	90	0		Calm cloudy.
18	84	87	0		,,
19	81	82	0	S.	,,
20	84	87	0	N. W.	
21	88	84	0	N. W.	Cloudy with occasional showers.
22	83	88	80	N. W.	Heavy rain.
23	83	88	0		Clear.
24	84	88	0	Calm.	Cloudy.
25	83	87	0	S. W.	,,
26	84½	93	82	S. W. and N. W.	,,
27	82	86	84		,, some showers of rain.
28	84	88	0	S.	,,
29	83	87	0	S.	,,
30	82½	86½	0	S.	,,

Thermometer at its greatest height about 3 or 3½ .P M.

July.

Date.	Thermometer degrees. 9 A. M.	Noon.	4 P. M.	Wind.	Remarks.
1	83	88	0	S. W.	Cloudy.
2	86	89	0	S.	Strong wind, with rain in the afternoon.
3	82	85	0		
4	82	86	0	S. W. and N. W.	
5	82½	87	0	do. do.	Cloudy, rain.
6	82	88	0	do. do.	,, ,,
7	82	90	0	Calm.	,, ,,
8	82	88	0	S. W.	,, ,,
9	82	86	0	S. W. and N. W.	Rain in afternoon, from N. W.
10	80	87	0		,, ,,
11	84	90	0	Variable.	Clear.
12	89	91½	91½	do.	Cloudy.
13	85	88	0	do.	,,
14	86	89½	0		,,
15	88	89	87	N. E.	Clear in the forenoon, afternoon cloudy.
16	86	87½	85	N. E.	Cloudy.
17	78	78	78	N. E.	Much rain.
18	78	80	78	N. W.	,,
19	79	84	83	N. W.	Clear and dry.
20	82	86½	86		Clear.
21	84½	89	86	Calm.	
22	82	86	0	S.	Cloudy.
23	82	85	0	S.	,,
24	82½	86½	0		,,
25	83½	87	0	Calm.	Rain in afternoon.
26	82	86½	0		Rain.
27	82	84	0		Light rain.
28	80	83	0		Cloudy.
29	80	83	0	S. W.	,,
30	79	82	0	S. W.	,, and light rain.
31	80	82	0		,, ,,

August.

Date.	Thermometer degrees. 9 A. M.	Noon.	4 P. M.	Wind.	Remarks.
1	79	84¼	0	S.	Cloudy.
2	81	82	0		,, light rain.
3	80	83	0	Calm.	,, no rain.
4	81½	86	0	S.	Clear.
5	82	85¼	0	S. E.	,, occasional light showers.
6	82	84½	0	Calm.	Bright.
7	82	83	0		Cloudy and rain in the afternoon.
8	78	81½	0		Constant heavy rain.
9	80	85	0		Clear.
10	82	87	0	S.	Showers.
11	82	86	0	S.	Cloudy and some rain.
12	84	87	0		Clear.
13	83	89	0	S.	,,
14	84	89	0	S. W.	,,
15	85	88	85	S. E.	Cloudy.
16	84	84	82		
17	81	83	82	S.	,, heavy rain to the northward.
18	83	87	84	Calm.	Some rain.
19	84	86	83	S.	Clear.
20	83	86	0	S.	,, rain in the afternoon.
21	84	87	86	S. E.	,,
22	83½	86	85	S. E.	,,
23	83½	85	0	S.	
24	78	80	0	S.	,, distant thunder.
25	77	78	0	S.	Heavy rain last night and this day.
26	80	82	0		,,
27	80	82½	0	Calm.	,,
28	83	85	0		Cloudy.
29	81½	86	0	S.	Clear—fresh breeze.
30	81	86	0	E. S. E.	,,
31	84	88	0	S. E. by E.	

September.

Date.	Thermometer degrees. 9 A. M.	Noon.	4 P. M.	Wind.	Remarks.
1	83	85	0	E. & S. E.	Clear fresh breeze.
2	84	87	0	S. E.	Forenoon clear—afternoon heavy rain & thunder.
3	82	85	0	N. E.	Heavy rain from North East.
4	82	83¼	0	N. E.	Do. Do.
5	81	86	81	S. E.	Clear.
6	81	86	0	S. E.	
7	82	85	0	S. E.	Cloudy.
8	82	85¼	0	Calm.	Do. some showers.
9	83	86	0	S. W.	Do. strong fresh breeze.
10	83	86	0	W. S. W.	At 7½ A. M. a slight shock of an earthquake was felt accompanied by a noise like distant thunder towards the S. W.
11	83½	85¼	0	S. W.	Cloudy close.
12	81	84	0	N. E.	Much rain.
13	80	83	0		Do.
14	78	82	0		Do.
15	81	82	0	N. E.	Do.
16	80	81	0	N. E.	Do.
17	80	82	0	N. E.	Some rain.
18	79	80	80	N. E.	Do.
19	80	82	0	Calm.	Cloudy.
20	82	84	0	do.	Do.
21	83	88¼	0	do.	Do.
22	84	88	87	N.	Clear a thunder storm with rain at 6 P. M.
23	82	86	86	N.	Do.
24	80	86	87	Calm.	Do. rain in the afternoon with thunder.
25	82	86	79	N. W.	Do. thunder storm at 2 P. M.
26	80	85	86	Calm.	Do.
27	82	87½	0	do.	Do.
28	82	88	87	do.	
29	84	88	82	S. E.	Thunder storm with heavy rain at 3 P. M. from [the Northward.
30	82	86	0	N.	Clear.

October.

Date.	Thermometer degrees. 9 A. M.	Noon.	4 P. M.	Wind.	Remarks.
1	82	87	0	N.	Cloudy.
2	84	88	82	N. E.	Forenoon clear—a thunder storm at 3 P. M.
3	82	85	80	N. W. to N. E.	Cloudy rain in the afternoon.
4	81	86	0	N.	Do.
5	82	85	81	N. W.	Some rain.
6	78	82	80	N.	Cloudy—light showers.
7	78½	84	0	N.	Clear. [continued till morning.
8	82	86	0	N. by S. E.	Sea breeze at 2 P. M. Ny. winds at 8 P. M. and
9	80	84	0	N. by S. E.	Do. Do.
10	79½	85½	0	N.	Clear sea breeze at 3. P. M.
11	81	85	0	Calm.	Sultry.
12	81	84	85	Do.	Do. clear.
13	82	85½	0	Do.	
14	80	85½	0	Do.	Close and oppressive.
15	81	86	85	Do.	Do. sea breeze in the afternoon.
16	80	85	0	Do.	
17	73½	82	83	N. E.	Clear—wind cold at night from the northward.
18	74	82	84	N. & N. E.	
19	76	83	0	N.	Clear.
20	76½	83	0	N.	Do.
21	77½	82	82		Cloudy.
22	76	82	0		
23	78	82	0	N. W.	Cloudy fresh breeze.
24	76	82	0	Do.	Do. Do.
25	79	84½	83	N.	Clear—sea breeze in the afternoon.
26	82½	83	0		Do. Do.
27	77	84	84	N.	Do. Do.
28	78	84	0	Ny. & S. E.	Do. Do.
29	78	83	84	do.	Do. Do.
30	79	83	80	do.	Cloudy light rain.
31	77	83	0	N.	Clear—wind dry and warm by day at night cold.

November.

Date.	Thermometer degrees. 9 A. M.	Noon.	4 P. M.	Wind.	Remarks.
1	75	82	0	N.	Clear—nights cold thermometer 6 A. M. 69°.
2	73	81½	82	N.	Do. Do.
3	73	82	83	N. E.	Do. Do.
4	75	81	81	N.	Do. Do.
5	72	80	81	N.	Cloudy.
6	73	79	80	N.	Do.
7	76	84	82	N.	Clear—sea breeze from 11 A. M. to 4 P. M.
8	78	82	80	N. E.	
9	73	80	80	N. E.	Clear—thermometer at 6 A. M. 69°.
10	72	78	79	N.	Do. dry and parching wind.
11	71	78	0	N.	Do. Do. Do.
12	71	77	79½	N.	Do. thermometer at 6 A. M. 63°.
13	70	78	77	Ny.	
14	74	79	77	do.	
15	73	78	76	do.	
16	74	78	78	do.	Clear wind from the Northward at night sea breeze during the afternoon. (13–20)
17	71½	78	79½	do.	
18	74	80	81	do.	
19	74	79	78	do.	
20	74	81	78	do.	
21	70	78	77	N. E. by S. E.	Do.
22	73	77	78	N. E.	Thermometer at 6 A. M. 63°.
23	68	76	78½	do.	
24	70	76	76	do.	
25	68½	77	76	do.	Clear weather—thermometer at 6 A. M. 59½°.
26	70	70½	76	do.	Do.
27	71	75	75	do.	Do.
28	73	78	76	do.	Do.
29	73	82	81	do.	Cloudy.
30	74	74½	74	Ey.	Some rain.

December.

Date.	Thermometer degrees. 9 A. M.	Noon.	4 P. M.	Wind.	Remarks.
1	71	74½	0	E.	Clear—sea breeze rain last night thermometer 7 A. M. 73°.
2	65	68	67		
3	64	69	68	N. E.	Thermometer 63°. at sun rise.
4	66	69	0	do.	
5	64	70	0	N. W.	
6	68	77	77	do.	
7	70	78	76	Ny.	
8	72	76	74	do.	
9	65	75	74	do.	
10	66	74	74		
11	67	73	72	N. E.	
12	68	74	74	N.by E.	
13	67	75	0	do.	
14	68	76	0	do.	
15	69	76	0	do.	Clear weather, wind northerly at night and east-
16	69	74½	0	do.	erly during day.
17	69	75	74½	do.	
18	69	76	0	do.	
19	67	76	75	do.	
20	68	73	77	do.	
21	69	76	73		
22	70	80	80		
23	73	79	78		
24	72	78	0		
25	72	76	0		
26	68	76½	75		
27	65	73	0	N E.	
28	66	71	72½		
29	68	72¼	71	N. W.	Change from mild weather to cold N. E. wind's
30	68	72	72	do.	blowing fresh.
31	68¼	75	0		

January 1828.

Date.	Thermometer degrees. 9 A. M.	Noon.	4 P. M.	Wind.	Remarks.
1	68	77	0	S. E. & Ny.	
2	70	76	0	do.	
3	70	78	76	do.	Cloudy, wind northerly by night easterly by day.
4	72	77	75	do.	
5	74	77	0	S. E. & E. S. E.	
6	75	80	0	Do.	Strong sea breeze from E. S. E.
7	76	81	0	Do.	
8	74½	80	76	S. E.	Cloudy.
9	75	79	77	S. E.	do.
10	74	80	76		
11	75	80	75		Wind Ny. at night from S. E. by day.
12	70	74	0		
13	67	73	72	N.	
14	62	74	74½	N.	
15	70	76	75		Ther. 6 A. M. 62°.
16	72	77	76		
17	70	79	76	N. E.	Clear.
18	73	80	78	Ny. & S. E.	Cloudy.
19	70	74½	73½	do.	Do. sea breeze in the afternoon.
20	70	73	73	do.	do. do.
21	70	73	73	do.	do. do.
22	69	69	68		Cloudy, light rain.
23					
24	70	76	75		Dry warm winds.
25	72	84	82	S.	do.
26	73	88	83	S.	do.
27	75	88	82	N. E. by S.	do.
28	73	82	80	S. E.	
29	68	76	74	do.	
30	66	75	74	do.	Clear.
31	66	76	75	do.	

February 1828.

Date.	Thermometer degrees. 9 A. M.	Noon.	4 P. M.	Wind.	Remarks.
1	70	76	76	S. E. & Ny.	
2	68	77	75	do.	
3	67	75	75	do.	
4	70	82	81	S. E.	Fair weather, winds S. E., during the day Ny. at night. (days 1–7)
5	72	82	81	do.	
6	73	81	81	do.	
7	74	80	0	do.	
8	75	79	79	E.	Cloudy, light rain.
9	75	78½	0	do.	Do. Do.
10	73	79	77	do.	Clear.
11	71	76	75		Do.
12	76	80	78	E. S. E.	Cloudy.
13	75	80	79		Heavy fall of rain.
14	74	79	0		Cloudy, light rain.
15	72	78	77	do.	Do.
16	72	78	76		Do.
17	73	74	0	E. S. E.	Do.
18	71½	77	78	Sy.	Cloudy, light rain.
19	74	78	78		Light rain.
20	76	80	81	S. E.	
21	74	82½	82		
22	76½	82	0	S. E.	
23	76½	80	0		Heavy rain at 9 P. M.
24	75	82	0		Heavy dews.
25	76	84	82½	S. W.	Rain from N. W.
26	77	84	83	S. E.	Heavy rain last night.
27	75	80½	0		Rain.
28	76½	82	75		Occasional heavy showers,
29	76	80½	0	N. E. & S. E.	Clear.

March 1828.

Date.	Thermometer degrees. 9 A. M.	Noon.	4 P. M.	Wind.	Remarks.
1	75	82½	79	Ny. and S. E.	
2	72½	79½	79	N.	
3	70	83	80	do.	
4	71	80½	0	Ny.	Fair weather, wind Ny. at night Sy. by day.
5	70	81	81	do.	
6	70	81	80	do.	
7	74½	82	80	N.	
8	74	82	83	N.	
9	75	85	87	N.	Close oppressive, wind warm.
10	74	86	86	N. and S.	
11	76	89	84	S. and Sy.	Wind Ny. dry and warm till at 1 P. M. when it changes to S. E. thermometer at 7 A. M. about 70°
12	76	88	88		
13	80	90	90		
14	80	86	86		
15	78	86	86	Ny. and by E.	
16	76	88	86		Winds Ny. warm and dry.
17	74	86	86	E.	
18	80	86	86		
19	80	88	86	S. E.	
20	81	88	86	E.	do.
21	82	88½	87	E.	
22	82	89	86	S. E.	
23	83	91	87	S. E.	do.
24	80	87	88	S. E. by S.	
25	82	87	81½	do.	
26	82	86	84½	E.	Clear.
27	77	88	84	E.	do.
28	78	87	84½	E.	do.
29	83	87	86	E.	Cloudy.
30	82	86	84	E. and by S.	do.
31	80	80½	81	Calm.	Light rain.

April 1828.

Date.	Thermometer degrees. 9 A. M.	Noon.	4 P. M.	Wind.	Remarks.
1	78	83	79	Sy.	Severe thunder-storm at 1 P. M. during which the [ther. fell to 79°.
2	80	84½	81½	Calm.	Cloudy, light rain.
3	80	88	88	E. & by S.	Forenoon cloudy, afternoon clear calm & sultry.
4	80	92	86	do.	Clear, wind warm from S. E.
5	79	85	86	S. E. by S.	Cloudy.
6	80	86	86	S. by S. E.	}
7	80	90	88	S. E. by S.	} Clear, fresh breeze.
8	82	90	85	S.	}
9	82	90	87	S. by W.	Clear, hot wind at noon.
10	82	90	88	S. E.	
11	82	93	90	S.	Clear, fresh breeze.
12	85	91	89	S.	Sultry.
13	86	91	87	S. E.	Cloudy, a gale of wind from 6 P. M. till mid night,
14	83½	88	86½	do.	do. do. [with thunder & lightning.
15	83	90	86	W.	Land winds in the forenoon, yesterday from 1 P. M.
16	84	88½	87	E.	}
17	83½	88	85	S. E.	} Fair.
18	84	89	86	do.	} do. Light rain.
19	83	91	88	E. by S. E.	
20	87	91	89	S. E.	
21	87	90	91	N. by W.	Land wind from 5 P. M. yesterday.
22	86	92½	90	E. by S.	Clear fresh breeze.
23	87	93	90	E. S. E.	do. do. light rain.
24	86	94	89	do.	do. do. a north western in the afternoon.
25	84	92	86	S.	Cloudy, a north western at 4 P. M. with a few drops
26	86	91	85	S. E. by E.	do. do. at 4½ P. M. with rain. [of rain.
27	86	92	89½	S. E.	
28	86	92	89	do.	}
29	85	93	89	S.	} Clear, wind high.
30	89	91	91	do.	}

May 1828.

Date	Thermometer degrees. 9 A. M.	Noon.	4 P. M.	Wind.	Remarks.
1	85	92	90	S. E.	Clear, calm.
2	88	96	91	W.	Winds westerly in the forenoon, easterly in the afternoon.
3	87½	92	89	S. E.	
4	88	92	90	S. E. by S.	Clear, fresh breeze.
5	88	93	88½	S.	
6	89	92	87	S.	
7	88	91	90	S. E.	
8	88	90½	90	E. S. by E.	
9	88	92	88	S.	Clear weather strong breeze.
10	89	93	90	S.	
11	89	92	89	S.	
12	90	91	88	S.	
13	86	88½	88	S. E.	
14	87	90	88	S.	Few drops of rain.
15	88	90	91	S.	
16	89	89	87	S. E.	Thunder storm or squall from the N. W. with heavy rain at 7 P. M.
17	86	93	90	W. & S.	Forenoon wind westerly, afternoon southerly and clear.
18	87	92	80	S. by W.	A fine gale with heavy rain at 4 P. M. from the west, which continued to blow till 6 A. M.
19	85	89	86	S. E. by E.	
20	86	89	86	do.	Clear, wind moderate afternoon cloudy.
21	87	89	88	E.	Clear.
22	86	90	87	E. S. E.	
23	87	91	90	E.	do. close and sultry.
24	88	91	89	E. S. E.	Cloudy.
25	89	93	89½	E.	Clear fresh breeze.
26	88	92½	90	S. E.	do. do.
27	91	93	88½	S.	do. do. afternoon cloudy.
28	89	93	90	S.	do. do. do.
29	89	93	90	S.	do. do. do. country has a parched apearance.
30	89	92	89	S. E.	do. do. do.
31	89	91	89	S. E.	Clear fresh breeze.

HYDERABAD.

General description of the Hyderabad territories.

The country of Hyderabad, including the provinces of Hyderabad and Beeder, and also part of Aurungabad, Candeish, and Berar, in its extreme limits, extends between the 15th, and 21st 30″ degrees of north latitude, and the 75th, and 81st 30″ of east longitude. It is somewhat of a quadrangular shape, but the sides are so very irregular, as to defy description.

Boundaries and extent.

It is bounded on the east, by the country of the Rajah of Nagpore, the Wurda and Godavery rivers separating the two countries;—on the north by part of the Nagpore country, Meiwar, and a part of Candeish; on the west, lie the Bombay territories; and on the south the Ceded districts, Kurnool, Guntoor, and part of the northern division of the Madras provinces, the Toombuddra and Kistnah rivers throughout a great part of its southern limit, forming the natural boundary.

Its average length may be estimated at 320 miles, from north to south, and its breadth 270, from east to west, containing an area of about 90,000 square miles.

The general surface of the country is irregularly hilly, being elevated from 1,800 to 2,000 feet above the level of the sea; but there are no mountains of any great height to be seen. The rocky hills so common throughout all parts of this province, consist chiefly of dark coloured granite, found in most places in large detached blocks, and in others, pervaded by dykes of green stone, which are frequently of great extent.

The soil in general, between the granitic hills, is extremely fertile, and when capable of being irrigated, and in situations where alluvial deposits are collected, produces rich crops of rice.

The following account of the geological features of the province of Gundwana, is from the pen of Dr. Voysey.

Geological observations.

"The granitic part of this country may be called both mountainous and hilly, and in the plains and valleys are found, elevations which are miniatures of the loftier ranges. These ranges are few in number, and remarkably interrupted and irregular, their extent inconsiderable, and their height above the level of the sea, about 2,500 feet, most of them falling far short of that height. Single isolated hills, and groups with round and conical summits, are by far their most common features.

"Although the complete isolation of these hills and groups, first strikes the observer as being the prevailing character, on a closer examination it will be found, that the apparently isolated hills are connected at their bases, by scarcely distinguishable elevations, pursuing the north-west and south-east direction, common to them and the larger ones.

"They are extremely bare and rugged in their outline, and consist of piles of rocks, lying on enormous masses of concentric granite. In the process of decomposition, these form *tors, and logging stones*, of a singular appearance.

"The hill on which the fort of Bhowanighur is built, and that of Maul-Ali, 2017 feet above the level of the sea, may be taken as specimens of the isolated hills and groups; and the ranges of Mulkapore and Golcondah, as specimens of the continued. The only parts of the country which are entitled to the name of plains, are those in the neighbourhood of the rivers, being formed by their inundations, and therefore of small extent.

"The above description applies to the greater part of the granite country; the ranges of granite, however, which run north-east and south-west, from Guntur-gundwana, forming the pass of the Kistna at Beizwara, and that of the Godavery at Papkunda, are of a different character; being less interrupted, more elevated above the plains, and although

not higher above the level of the sea, are altogether of a different structure. Their sides are very precipitous, and oblige the traveller to use his hands and knees for a considerable portion of the ascent, though their outline is not rugged, and the logging stones and tors, of the former mentioned granite, are not visible.

"The cantonment of Bolarum five miles north of Secunderabad, is one of the highest inhabited parts of the granite country, and from thence to the northward, gradually decreases in height as far as Munackpet, the same takes place more suddenly at Mulkapore to the eastward, and at Patancheroo to the north-west.

"The city of Hyderabad, close to the walls of which the river Moosey runs, is by barometrical measurement, 1,672 feet above the level of the sea, and the cantonment of Secunderabad, 1,837, which agrees with Colonel Lambton's trigonometrical measurement, within 19 feet.

"The outline of the basaltic trap hills, is smooth and rather flattened, with a few conical elevations in the range; or they consist of an accumulation of round hills, with deep ravines intersecting and separating them. They are covered with long grass to their summits. Their course is the same with the granite they cover, but it frequently happens that no regular direction can be perceived. The sandstone country and rocks are flat, the sides of the hills steep, with extensive gaps in the course of their ranges, at times, nearly reaching to their bases; their direction is north-west and south-east, or nearly so, and it is probable, that they extend over a considerable portion of the south-east part of Gundwana.

"The lakes are all artificial, and are found only in the granitic and sandstone country; they are usually formed by uniting two projecting points of low hills, which nearly separate the upper half of a valley from the lower, by enormous causeways of granite, or mounds of earth, which collect the different streams rushing from the hills during the rainy sea-

son, forming sheets of water, of from three to ten miles in circumference. This mode of retaining water artificially, is probably coeval with the first increase of population in this country, as the small supply derived from wells, would not be equal to the cultivation of rice, which is the only grain extensively produced in the granitic soil. After the rains, the loss they sustain from irrigation, evaporation, &c. is supplied by infiltration, nevertheless, many become dry before the monsoon season returns. Those tanks which are neglected, and no longer supply rice-fields, are speedily covered with the large leaves and flowers of the nelumbo-indica, othelia alismoides, and other aquatic plants: their waters acquire a noisome smell and unwholesome taste. The number of tanks, and their state of repair, afford a fair criterion of the prosperity of the country.

" They are less frequent in the sandstone country, and the unirrigated cultivation is accordingly more abundant.

" In the basaltic trap they are rarely seen, and the irrigation of rice when cultivated, is performed solely by wells.

" The fertility of the soil which composes the cultivated districts, of the granitic part of this province, depends greatly on the facility with which the rock of which they are formed, becomes decomposed. The soil is silicious, but varies as much as the granite rock itself, and yields but few spontaneous productions. The rich valley of Mulkapore forms an exception, and it may be said, that usually, the spontaneous fertility is in the inverse ratio of height above the level of the sea.

" The following is an analysis of a garden soil at the cantonment of Secunderabad, which has not received much manure.

" Specific gravity of soil 1.70. Four hundred and eighty grains contained viz:

Of water of absorption........................	10 *grs.*
Stones consisting of quartz and felspar........	255 ,,

Vegetable fibre..............................	2	,,
Silicious sand..............................	154	,,
	421	

The surface of Hyderabad is an elevated table-land, hilly but not mountainous, with a climate of a more moderate temperature than its latitude would indicate.

The country in general may be said to be thinly wooded; and there are no jungles of any great extent, and no forest trees to be found, except in the northern parts, and the but little known, north-eastern direction; extensive topes of date and palmyra trees, are however to be found every where.

Tanks and lakes. There are innumerable tanks, and of all sizes throughout the country, formed as above mentioned, by embankments thrown up between ranges of hills or elevated grounds,* but with the exception of the Purkal lake, about 120 miles north-east of Hyderabad—there are no natural reservoirs of water to be met with, and but few swamps. The Purkal, a body of water of great extent and considerable depth, gives rise to a stream called the Kussera or Over,—which as well as several other large streams, taking their rise both in the eastern and western direction, join the Kistnah river, which enters the sea south of Masulipatam. The water in general, both of tanks and wells throughout the country, is of good quality.

Rivers. The principal rivers are near the northern boundary, as the Poorna which flows through the rich valley of Berar, and unites with the Taptee at Chandway in Meiwar; the Wurda, which runs along the western boundary, dividing Hyderabad from the country of Nagpore, and which unites with the Godavery near a place called Serlouncheh. The Pyne-gungah, takes its rise in the north-western part of the country, and flowing eastward joins the Wurda near

* The most remarkable of these are the Hussain Saugor tank lying between the cantonment of Secunderabad and Hyderabad, which is several miles in circumference, and irrigates a great extent of paddy ground; and another tank to the west of the city of Hyderabad, the bund of which is formed by 21 horizontal arches—19 of which are 150, and the other 2, 100 feet in span. This body of water is 17 miles in circumference when the tank is full. It is filled by a canal from the Moosey river, and supplies the city with water. It was constructed at an expense of 8 lacs of Rupees.

Warra. The Godavery, the most considerable river in Southern India, takes its rise in the mountainous parts of Aurungabad, and flowing eastward, intersects the country of Hyderabad, and after receiving innumerable tributary streams, the principal of which are the Manjeera, the Ghurkpurna, and Wurda, it flows south-eastward, into the Bay of Bengal, below Rajahmundry. The Kistnah, next in size and importance, also rises in the western ghauts, in the province of Beejapore, and takes a direct easterly course through the southern part of the Hyderabad country, being joined by the Beema and Toombuddra rivers, which also have their origin in the same range of ghauts, the former uniting with it at Culloor, and the latter at Mooricondah; many smaller streams also flow into it, amongst which, is the Moosey or Hyderabad river, which joins the Kistnah below Warrapilly;—after which it inclines somewhat to the northward, and making a considerable sweep then proceeds south, and enters the sea at Masulipatam.

Roads. The military roads passing through the Hyderabad country, are kept in a state of excellent repair at all times. The principal road is that, running from Secunderabad to Madras, viâ Warrapilly and Ongole; and along this line, excellent bungalows have been erected at each stage, for travellers. A branch from this road strikes off near Nacracul, and proceeds by Beizwarra to Masulipatam, along which are also good bungalows at the several stages. Proceeding northward to Nagpore there are two good roads, one viâ Nandair, and the other by Nirmul. The latter road however, can only be travelled with safety from January till the end of May, or previous to the setting in of the south-west monsoon, owing to the danger of contracting remittent fever, at the other periods of the year, in passing through the extensive Nirmul jungle. This jungle commences about five miles from Nirmul, on the summit of the ghaut of the same name, and extends to within two or three miles of Yedulabad, the total distance between these places being 46 miles and 2 furlongs.

The road viâ Nandair, being open, and free from dense jungle, may be travelled with safety at all seasons, and though circuitous, is consequently preferred. A good road also proceeds north and by west to Jaulnah.

A road running southward, divides at a place called Juddacherlah into two branches, one leading to Bellary and Bangalore, the other to Kurnool and Cuddapah; Bungalows have not been erected on these lines. In addition to these various roads, others intersect the country in all directions, running between the different stations of the Nizam's army, and the principal towns.

The travelling distance from Secunderabad to Madras, viâ Ongole, is 399 miles; to Masulipatam viâ Beizwarra 221; to Nagpore, via Nirmul 323½; and by Nandair 420; to Jaulnah by Oodghir 263; to Bellary, viâ Adoni 229½; and to Cuddapah, viâ Kurnool 256½.

Wild animals. The wild animals do not differ from those usually met with in Southern India, tigers, cheetas and antilopes are however very numerous; and in the unfrequented country to the north-east, wild buffaloes are also to be found. The wild elephant is not known in this part of the Deccan.

Subsidiary force. The British connexion with this country, commenced in the latter half of the last century, during the long contest for supremacy, between the French and English powers;—and about the year 1798, a treaty was entered into with the Nizam, under which a certain number of troops, commanded by European officers, and instructed in European military tactics, were agreed to be kept up; and again, a further treaty was made in 1800, when the subsidiary force was fixed at 8000 infantry, and 1000 cavalry; a certain portion of territory having been ceded for their maintenance.

The Hyderabad subsidiary force now consists of two distinct bodies of troops.—His Highness the Nizam's army; and the regular troops of the line, European and native, belonging to the Madras presidency.

The Nizam's army consists of five regiments of irregular cavalry—four companies of native artillery—eight regiments of native infantry, a company of hill rangers, and one of pioneers ; the whole of which are officered by Europeans from the regular armies of the three presidencies.—The stations occupied by the Nizam's troops, are Bolarum, Aurungabad, Goolburgah, Ellichpore, Monidabad, Mucktul, Lingasore and Hingolee.

The medical officers of this service not being under the Madras government, no reports or returns are received at the Medical Board office from them, nor do the records contain any information relative to the medical topography of the stations above mentioned, which, consequently do not fall within the scope of this report.

The stations occupied by the troops belonging to the Madras presidency, are Secunderabad and the adjoining cavalry cantonment of Bowenpilly, and Jaulnah.

SECUNDERABAD.

Cantonment of Secunderabad, and vicinity.

This cantonment, the head quarters of the Hyderabad subsidiary force, is situated in north latitude 17° 26″, and east longitude 78° 32″. The city of Hyderabad lies 6 miles to the southward, separated from the Residency, usually called Chudderghaut, by the river Moosey, over which an excellent bridge has been erected under the superintendence of Major Oliphant, late of the Madras Engineers.

The military cantonment of Bolarum, occupied by the Nizam's troops, lies about 5 miles north-east, and the cavalry cantonment of Bowenpilly, 2 miles north-west.

The surrounding country is wild and picturesque, being interspersed with small hillocks of granite, over the entire of its surface. The soil is principally silicious on the higher grounds, and many of the scintillating stones are to be

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Plan of the
CANTONMENT OF SECUNDERABAD.

B. C. Royel del.

found on the surface, such as quartz, agate, calcedony, flint, rock-crystal, also felspar and mica. To the westward, distant about 3 miles, is a range of hills consisting of granite rocks, heaped one on the other, in a variety of strange and fantastic shapes. On the north-east, are two very remarkable large granitic hills, of a semispherical shape, lying about three miles asunder, and completely isolated. They are both of considerable height, having buildings on their summits, in which are the tombs of several fakeers. The nearest, *Maul Ali*, as it is called, is the largest, the other hill named *Emaum Zameen*, is about one fifth less in size; and at these places, particularly the first, a large concourse of Mahomedans meet annually for religious purposes.

Tanks. The province as already mentioned is well supplied with tanks, with which the whole face of the country is studded, in every variety of shape and size.

Palm-trees. There are three kinds of palm trees met with, two of which are very common, but the other the *Cocus Nucifera*, can only be reared by great care and attention. The date tree (*Phœnix Dactylifera*) grows wild over the whole country, as does also the *Palmyra*, from both of which toddy and coarse sugar are prepared. Different kinds of banyans, and the margosa are also common. The custard apple (annona squamosa) is indigenous, and grows in great abundance over the whole face of the country, and in seasons of scarcity, this fruit is said to have saved thousands of the poor from starvation.

Climate. The south-west monsoon commences generally at Secunderabad in the beginning of June, and continues at intervals, till about the middle of October. During November and December, the sky is frequently cloudy, and the winds easterly; and sometimes also in the north-east monsoon a considerable quantity of rain falls. From the beginning of January to the end of May, the sky is gene-

rally clear, and the weather dry. Dews are not infrequent in January, and the early part of February; and in some years, light showers of rain occur during these months. The annual fall of rain is estimated at thirty-two inches; but in years when the monsoon fails, it does not amount to half that quantity. The mean temperature in the house, for one year, deduced from observations made at sun-rise, at two o'clock in the afternoon, and at sun-set, was in January $74\frac{1}{2}$, February $76\frac{1}{4}$, March 84, April $91\frac{1}{3}$, May 93, June 88, July 81, August $80\frac{1}{3}$, September 79, October 80, November $76\frac{1}{2}$, December $74\frac{1}{6}$, giving as the annual mean $81\frac{1}{2}$. Had these observations however been made earlier in the morning, and later in the evening, and the thermometer placed in a more exposed situation, it is probable that the *annual mean* would have been at least two or three degrees lower. Indeed, the *daily range*, which more especially affects health, is very considerable during November, December, January and February, amounting in the shade, generally to about 20°, and not infrequently to 30°.—The most sickly periods are the wet and cold seasons, when the mortality amongst Europeans chiefly occurs.

Military lines, and public buildings.

The cantonment extends in a direct line from east to west, nearly three miles in length, forming one long curved and irregular street, having the officer's houses ranged on either side, in moderate sized compounds; this street is intersected in different parts, by others running north and south, which afford a facility of communication with the bazaars, sepoys lines, and parade ground. The original lines face the north, and behind them is the bazaar, commencing on the right or east end, and extending three-fourths of the length of the cantonment. The bazaar, generally speaking, runs in a parallel line with the street, about two furlongs in its rear, having the sudr bazaar situated about the centre. On the right or east end of the whole line, stands the European infantry barracks, and somewhat in their front, to the north-east, is the burial ground

enclosed by a wall; the road from Madras and Masulipatam, running between the barracks and burial ground. A little to the west of the barracks is the hospital, a large and commodious quadrangular building, enclosed by a high wall; and further west, are the lines of the officers of the regiment. Southward, and at a right angle with the lines of the European regiment, are those of a native corps, added to the force in 1834; they are of a temporary structure, the ground on which they stand is high, intersected by ravines, and the surface very uneven.

Left of the European lines, follow progressively those of the four native regiments, and the officers houses extending to the western end of the cantonment; on the extreme right stands the church, a large and handsome building, situated on the highest spot of ground in the cantonment, and to the north-west of it, is the masonic lodge.

In front of the lines of the native corps, are the respective hospitals, places of arms, and quarters for the serjeants of the corps; and at about the centre of the whole of the line, is the arsenal; the front, of all of these buildings, being in a straight line about thirty feet in advance of the officers compounds, with a row of trees before them. About fifty paces farther in advance is a good road running from east to west,—or from the church to the lines of the horse brigade of artillery,—adjoining the parade ground, which is about half a mile in breadth.—The parade forms an inclined plane, descending about two inches in the yard, and is bounded to the north by a rivulet, having two small bridges across it, over which run the roads leading to the foot artillery lines, and to the cantonment of Bolarum. On the south side of the rivulet, due north of the arsenal, is the cantonment burial ground, in a low and swampy situation, surrounded by a fence of milk-hedge; on the northern side are first the public rooms, and near them the fives court, about a quarter of a mile to the north-east, the powder magazines, and half a mile north-west the

lines of the foot artillery. These lines are situated on higher ground than those of the infantry, and the original granite rocks, with which the whole country is covered, in a greater or less degree, have not been removed from around them; both lines run parallel, and are rather more than a mile asunder. On the right, of the artillery lines, are two hospitals—one for the gun lascars, and the other for the Europeans. About half a mile distant in the direction of Bowenpilly, are lines for a native corps, which was added to the force on the removal of the troops from Jaulnah in 1834; they are of a temporary structure; the ground on which they stand is elevated, and somewhat undulating, having some small tanks in the vicinity. The troop of horse artillery, are placed on the north-west end of the cantonment, from whence is a commanding view of the whole length of the parade ground, extending as far as the church. The barracks are on an elevated site, and separated from the lines of the native infantry by a narrow strip of low rice ground, through which a causeway has been made, there is also a small bridge leading to them, under which passes the little rivulet bounding the parade ground, before mentioned.

Hussain Saugor Tank.

South of the horse artillery lines, and at the south-western end of the cantonment, is the extensive sheet of water, called the "Hussain Saugor" tank, which formerly gave its name to the cantonment of Secunderabad; on the eastern side of this large tank, is the bund or bank, which runs due south leading to the Residency, and city of Hyderabad. The top of the bund forms an excellent road, wide enough for three carriages to pass abreast, and is about a mile and a half in length.

To the eastward of the tank is a tract of cultivated rice ground, extending about eight miles in length, to the river Moosey, near to the village of Oopal, on the Madras road.

Bowenpilly, Cavalry lines.

The Cavalry lines are distant about two miles north of the cantonment, at a place called

Bowenpilly, situated in an open country, and on dry, and somewhat elevated ground; and the regiments stationed there have generally been very healthy, and free from epidemic diseases, more particularly cholera.

Population of the Native town.

There are about 5000 houses in the Sudr bazaar, which at the average of six inhabitants to each, would give a population of 30,000; this is however under the estimate recently made out, which exhibits an aggregate population of* 34,357. The generality of the houses are of one story, built of mud and tiled, but in the main streets there are a considerable number of a better description, consisting of two stories, and pucka built. The streets are irregular, and deficient in breadth, and the ground is uneven and rocky, causing much difficulty in draining it effectually. The common sewers are generally covered in, and extend throughout the several streets of the bazaar, but from its unevenness, pools have formed in various directions, into which the sewers empty themselves, causing accumulations of filth, which at certain seasons of the year prove very offensive, and are productive of malaria, ; attention is however paid to the cleanliness of the bazaar, as far as practicable, the inhabitants being held responsible for sweeping in front of their houses, and being obliged to contribute towards the repair of the drains, in the streets in which they reside. Houses of the better description generally have privies attached to them, but there is a want of that essential, amongst the poorer classes, which renders certain localities exceedingly offensive. The cleanliness of the bazaar, and the convenience of its inhabitants, have been greatly promoted by the recent erection of a market, in an open and airy situation, where the butchers and sellers of vegetables are located; it has also had the effect of inducing persons to build in the neighbourhood, and of withdrawing a portion of the population from the more crowded districts

* Adult males....	13,026
,, females ..	13,145
Children........	8186
Total...	34,357

of the bazaar, affording facilities for widening the streets in those parts. The bazaar is well provided with water of good quality, from wells and bowries, fed by springs.

There are no returns kept of deaths among the population, and consequently no data exist to determine the average mortality. Fever, bowel complaints, and rheumatism, are the most common diseases, and are most prevalent at the close of the monsoon. Considering the extent of the population, there are but few paupers at this station, and a fund is provided by voluntary subscription among the gentry, for the relief of the indigent; and those who are able to work are seldom without employment.

The fund adverted to, is under the management of a committee, and mendicants are not allowed to prowl about, or frequent officers compounds.

Police. The Police force consists of a cutwal, 2 jemadars, 3 duffadars, and 61 peons, who are divided into night watches for the protection of property, &c. The establishment is paid from the revenue accruing from the Abkarry contract; but there is a separate establishment of a jemadar, and 27 peons, paid by the Nizam's government, specially employed in preventing the sale of illicit spirituous liquors. The Abkarry contractor is also required to support an establishment of 84 peons, for the prevention of smuggling.

A distinct building is appropriated as a jail; the mean average number of prisoners throughout the year, being about 28, which includes persons confined for debt, for petty offences, and criminal offenders under sentence by general court martial. Punishments for petty offences are awarded by the Superintendent of police, such as fines, imprisonment, with or without hard labour, and corporal punishment; but the latter is only had recourse to in aggravated cases, or where other means have proved ineffectual. Prisoners sentenced

to hard labour, are employed under the orders of the Superintendent of police, in draining and levelling the streets, and in repairing bridges and other public works. Prisoners for debt, are supported by the parties at whose instance they are confined, and criminal offenders are subsisted by Government, at the rate of four pice each per diem ; all fines, which are regularly accounted for, are generally sufficient to cover the expenses of the maintenance of the prisoners.

Barrack & Hospital accommodation, for the European Infantry.

The barracks for the European infantry, at the eastern extremity of the cantonment, are situated on the side of a hill sloping gently to the eastward, with high land on three sides, and a low swampy plain on the fourth, the latter being interspersed with tanks, stagnant pools, rice fields, and a date plantation, which extends to within 500 yards of the barrack wall ; and besides the intoxicating beverage it so abundantly produces, it serves also as a place of deposit for all the filth, and nuisances of the neighbourhood. On the north-west or opposite side, and distant 100 yards, is the burying ground, densely crowded with graves and tomb stones, and about half a mile further back is a high rugged ridge of granite rocks. The soil on which the barracks stand, consists of a reddish coloured clay, mixed with decomposed granite, and except the low cultivated ground above mentioned, the surface in the immediate vicinity, is dry and barren.

The dimensions of the several apartments in the barracks are as follows.

	Rooms. No.	Length Feet.	Breadth Feet.	Height Feet.	No. of Cots.	Total.
Wing.	1 Centre room.	210	18	18	76	76
	1 do.	229	18	18	84	84
	2 Verandah rooms each	196	12	18	34	68
	2 do.	215	12	12	58	208
Square.	4 Centre rooms	142	18	18	58	208
	4 do.	164	18	18	60	240
	4 Verandah rooms each	135	12	12	24	96
	4 do.	150	12	12	26	104
	32 Serjeants' rooms				2	24
					Total Cots	1016

Hospital.

The hospital is situated on higher ground, about 400 yards to the west of the barracks, and is a pucka building with a tiled roof, having enclosed verandahs round it; it is in the form of an oblong square, surrounded by a wall, and is divided into 4 centre, and 6 verandah wards, of the following dimensions.

	Length Feet.		Breadth Feet.	Height Feet.	No. of Cots.	Total.
For Males.	2 Long centre wards each	110	18	18	20	40
	2 Short do. do.	75	18	18	14	28
	2 Long Verandahs do.	248 and 180	12	12	0	36
	4 Short do. do. to to	107 and 75	12	12	0	28
For Females.	1 Ward do.	65	18	18	0	14
	4 Verandahs.		12	12	0	18
					Total Cots	164

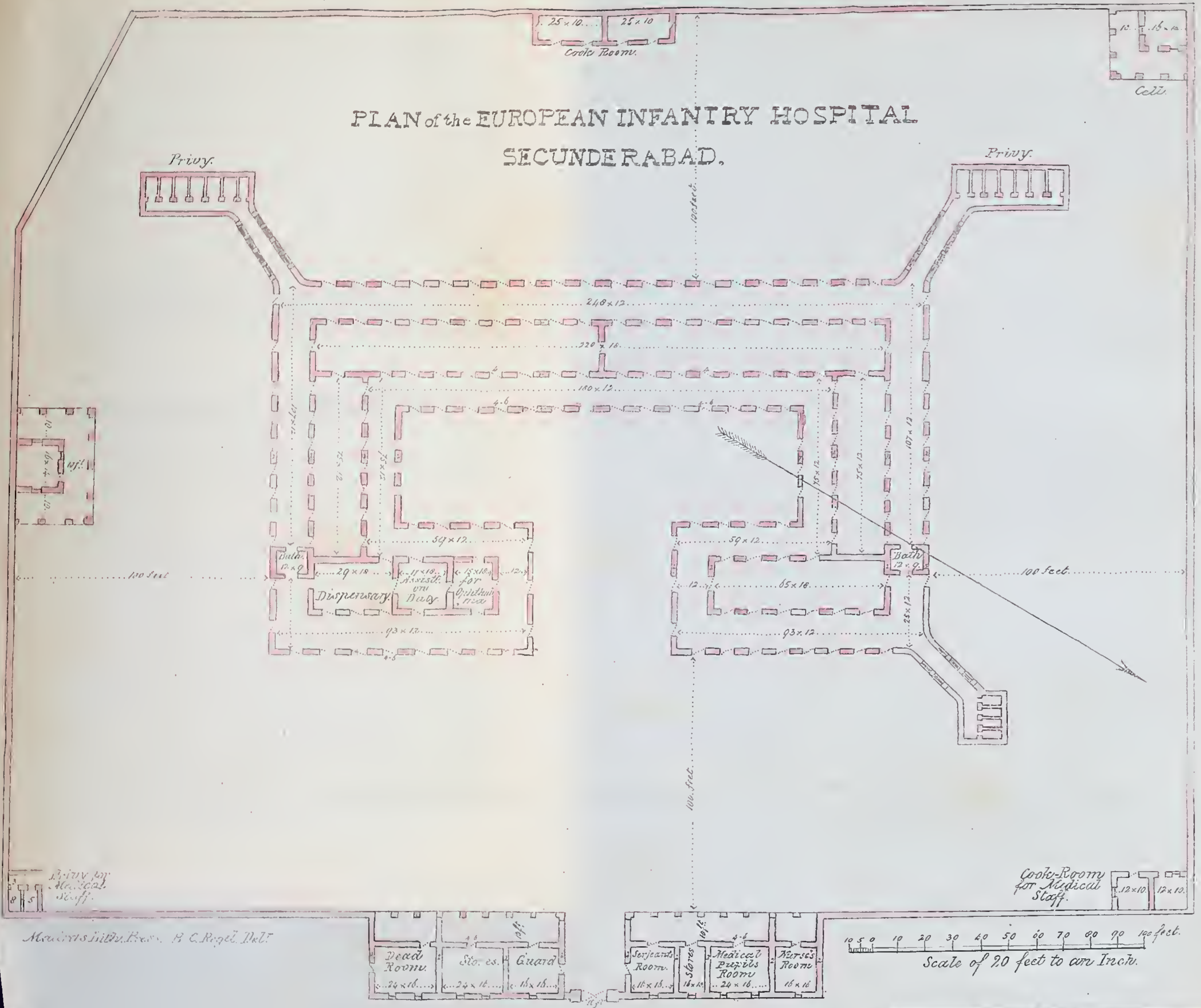
There are in addition to the above, an ophthalmic ward, two cells for maniacal patients, two bath rooms, a dispensary, a room for the medical officers on duty, a room for medical subordinates, for the serjeants, nurses, a guard room, store room and dead room, with cooking houses and privies. The wards are well ventilated, and the doors partly glazed, and partly venitianed.

European foot Artillery barracks.

The foot artillery barracks are situated on the elevated ridge, opposite the native infantry lines; they were built in 1826, and consist of two wings, each 280 feet long and 22 feet broad, having arched bombproof roofs, with a verandah on each side 11 feet broad. They form one long building, with an entrance in the centre, each side or wing of which, can accommodate a complete company.

The barracks are airy, though there are no ventilators in the roof, each wing being provided with 46 windows, and 6 doors; a plan of the building is annexed. In the barrack square, there are 10 quarters for the accommodation of the serjeants, each 16 feet by 10, with a small verandah in front.

PLAN of the EUROPEAN INFANTRY HOSPITAL SECUNDERABAD.

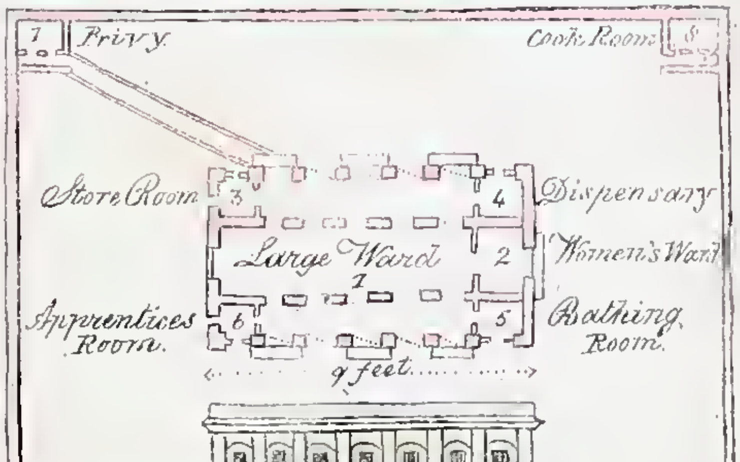


PLAN
of the
EUROPEAN FOOT ARTILLERY BARRACK,
and
HOSPITAL AT SECUNDERABAD.

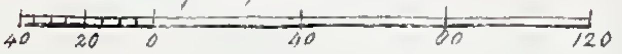
Barracks

Scale of 64 feet to an Inch.

Hospital.



Scale of 40 feet to an Inch.



The men are provided with iron cots on trestles ; and of the three planks of which it consists, during the day one is fitted to a smaller set of trestles, to form a bench, the remaining two, serving as a table ; each cot is 6¼ feet by 2½. Should the barrack be occupied by two complete companies, as intended, and supposing seven per cent to be married, each individual would have 690 cubic feet of air, making no deduction for children, at present however, there is only one company, and several men with families, are permitted to reside in the *parcherry*.

The yard or square, which has an open gutter through its centre, is too confined, the back wall being only 42 yards from the verandah of the barracks, and this space is considerably encroached on by the buildings for the serjeants, the guard, prison rooms, store, conjee house, cook rooms, and necessasaries.

There is a good well, outside the square at its western end, with a moat attached, worked by bullocks.

The privies are detached buildings, at the north-west corners of the square, and have one sewer emptying itself, into a shallow covered tank, about 80 yards from the building, it emits a constant stench during the hot months.

The prison room is very confined, being only 16 feet by 10, with one window.

There are two solitary cells, about half a mile to the northward of the barracks on a higher site, and are well adapted for the purpose.

Artillery Hospital. The European hospital is also a pucka, bomb-proof building, 90 feet long, by 50 broad, including back and front verandahs. It consists of one large ward, 72 feet long, by 18 broad, with a smaller one 15 feet long, and the same breadth, at one end, usually set apart for females ; it has also four rooms, two at each end of the verandahs, measuring 13 feet long and 11 broad, one of which is occupied as a store room, a second as a dispensary, the third is a bathing room,

and the fourth is for the medical subordinates on duty. The building is surrounded by a wall 13 feet high, and 20 yards distant, and within the square, in the angles, are the cook-rooms—dead-room, commissariat store room, and the privy. This hospital was errected in 1828. See plan annexed.

Native Hospital. The hospital for the natives, distant 80 yards to the eastward, is a brick and chunam building, with a tiled roof, and is 50 feet long and 20 broad; it has a verandah on the north and south sides, 8 feet broad.

Tables of diseases from No. 1 to 10, with some remarks, will be found at the end of the report.

BOLARUM.

Bolarum, descrpition of. The cantonment of Bolarum is situated about 12 miles north of the city of Hyderabad, and about 5 north of Secunderbad, through which the road to it passes.

Though at so short a distance from Secunderabad, and but little more elevated, it has been remarkable, from its first occupation by the Nizam's troops, in the year 1815, for its greater salubrity, and exemption from the periodical visitations of fever, experienced in the neighbouring cantonment.

The granitic ridge on which the station stands, is 1890 feet above the level of the sea, and about 50 or 60 feet higher than Secunderabad. This ridge though of considerable extent, and forming an open plain on the higher and eastern side of the cantonment, of six or eight miles in circumference, is bounded on all sides by paddy fields, and there are several small tanks scattered about the vicinity. The gardens produce all kinds of European vegetables, some of them in great perfection, and besides the common Indian fruits, there are the finest sorts of mangoes, and also grapes, strawberries, and pine apples; a few peaches have been grown in some of the gardens, but of indifferent quality.

The range of the thermometer throughout the year may be stated at from 49°, to 90° in the shade, though in the hot

months it sometimes rises much higher. In June, July, August and September, the winds are westerly; during October, November, December, January and February, they blow from the east; and in March, April, and May, the north-westerly breezes are frequent.

The station has military lines for two battalions of infantry, a rissallah* of irregular horse, and 250 artillery.

The hospital is in an airy situation, and well raised, having every convenience for the accommodation of 150 sick, but there are seldom more than one third of that number under treatment.

The annual fall of rain may be taken at from 25 to 30 inches, which occurs principally in the south-west monsoon, or between June and October. In the north-east monsoon 4 or 5 inches have been known to fall during the month of December, but this is unusal and only happens occasionally.

With respect to salubrity, Bolarum may be considered amongst the most healthy stations in the Deccan, and invalids consequently resort to it for change of air, particularly from Secunderabad, and often with the most decided benefit. No rank vegetation is permitted to spring up within the limits of the cantonment, the hedge rows are cut down annually to a certain height, and the place is consequently open and in a great measure free from the sources of noxious exhaltaions, which besides being a nuisance, are the frequent causes of sickness at large military stations.

CANTONMENT OF JAULNAH.

General description of Jaulnah and its vicinity.

Jaulnah, is a considerable town and military station, in the province of Aurungabad, and is the capital of a district of the same name. The cantonment is situated in north latitude 19° 50″, and east longitude 76°; it is 263 miles, travelling distance, north-west from Secunderabad, and about the same from Bombay, and lies between the

* A body consisting of about 200 horse.

Nizam's military stations of Aurungabad and Hingolee, being 90 miles west of the latter, and 40 east of the former—the distance to the sea on the eastern coast in a direct line, is 210 miles.

Roads. The roads throughout the country, in the dry season, are tolerably good, but become nearly impassable in the rains, from being intersected by nullahs, and from the nature of the soft, black cotton ground, oyer which they run.

Hills and Jungle. The surrounding country is hilly, but not mountainous, and is intersected in all directions with numerous ravines; the hills are chiefly composed of trap rock, which in many places is in a state of decomposition, and above it, is found a layer of red gravel, of a lateritious character, mixed with lime; irregular hilly ranges, with extensive tracts of waste stony land covered with long grass, characterize the general aspect of the district; and its surface is singularly barren and dreary. The usual jungle met with is low and scattered, consisting chiefly of the babool, except near Soonar, 30 miles eastward of Jaulnah, where it is high and thick, and composed of a variety of trees. Jungle exhalations are considered most noxious in October and November.

Soil and Produce. The soil is of that description called cotton ground, interspersed here and there, with patches of red gravel—it is capable of the highest degree of cultivation, though often impregnated with saltpetre, which is collected in considerable quantities by some of the villagers, and large tracts of country are reserved for pasturage :—Quartz, carbonate of lime and detached pieces of silex of various tints, many of which are combined with copper and iron, are found in the ravines and nullahs, besides which a brownish ochre used by native painters, is also very common.

The principal grains and plants, cultivated in the neighbourhood, are rice, bajeery, jouary, chenna, oil plants and cotton. Both the large and small descriptions of plough, in use throughout the country, are here common, and are worked either by 2 or 4 bullocks, according to circumstances;

the ground is, first ploughed in one direction, and then across, and freed from weeds, when the seed is sown—and the harrow being passed once over, the operation is completed.

Irrigation from wells is chiefly resorted to for the cultivation of gardens, or for a few rice fields in the immediate vicinity of the water; wheat, and grain of all kinds being watered from tanks and nullahs.

Breed of Horses & Cattle.

In the neighbouring villages horses of a good description were formerly bred, and some of them were well adapted for the cavalry, but of late years the breed has become deteriorated; draft bullocks and buffaloes are also numerous, the neighbouring downs affording fine pastu-rage; and milk and butter are of an exeeeding good quality; good working bullocks for carts, or carriages may be purchased for twenty rupees per pair; and exeellent milch cows at from seven to ten rupees; but milch buffaloes bring about twenty rupees each. Great numbers of the latter, being esteemed a superior breed, are sent for sale to Hyderabad, Sholapore, Dharwar, Hoobly and many other large towns to the southward. Sheep and goats, are in abundance, the mutton being of a superior description and flavour; and butchers meat will generally bear a comparison with that in any part of southern India, and is moreover eheap. Poultry on the contrary is sold at high prices.

Climate and seasons.

The elimate is considered to be one of the most plesant and salubrious in southern India; during the greater part of the year a fresh invigorating coolness is experienced in the mornings,—yet convalescenee from serious attacks of disease, and more especially hepatic affections, is almost invariably slow and imperfect, and a change of air, espeeially to the sea coast, is generally found requisite for the restoration of health. The hot season includes March, April, May and June, and is decidedly the most healthy period of the year,—the heat in the middle of the day is intense, the thermometer ranging between 90° and 100°, but it beeomes comparatively cool towards morning, the prevailing winds in these months are westerly.

The monsoon months embrace July, August, September and Oetober,—but in September a partial eessation of the rains generally takes plaee. During September and Oetober the exhalations from the soil, when partially dry, are regarded as deleterious,—and fever then beeomes very prevalent. The average fall of rain is 32 inches.

November, December, January and February eomprise the cold season, the variation of temperature at this time, is very great and sudden, the mornings are bitterly eold, and the days hot, the thermometer ranging between 40° and 80°, and iee has been known to form on plants. The winds at this season are northerly and easterly, and when due east are particularly cold and piercing. Fogs and dews prevail most in December and January, whieh are both very healthy months; and English vegetables then arrive at great perfeetion.

Town and Fort of Jaulnah, and Military Cantonment.

Old Jaulnah. The town of old Jaulnah eontains a population of about 10,000 persons, of these about 2,000 are mussulmans, the rest are composed of different seets of hindoos, sueh as brahmins, rajpoots, gentoos and mahrattas. The town now in a great measure deserted, and in ruins, is of eonsiderable extent ; but, from the superior construction of its small fort, situated on the bank of the Jaulnah river, and of the houses whieh are built many of them of hewn stone, it has evidently been a plaee of great opulence. An extensive trade was carried on here in grain and silks. which has now greatly deelined, but a manufaeture of silk cloths, for native use, is still kept up, whieh are ehiefly exported to the upper Mahratta country. The reduetion in the population, which was formerly much more numerous than at present, is attributed to the oppression and extortion of the native government.

Khaderabad. On the opposite side of the small river Koondulka, is the town of Khaderabad, which is surrounded by a high stone wall, and contains about 7000 inhabitants ; 1000 are mussulmans,and the remainder hindoos; marwarries among

the latter are a prominent class, who labour assiduously in their vocation, as soucars and shroffs. There was formerly an industrious race of parsecs at this place, but they have much degenerated of late, and their numbers have now diminished to about 40.

A large and flourishing trade was carried on here; as well as in Jaulnah, about 25 or 30 years ago, in silk and cotton, which afforded employment to 4 or 5000 weavers, and beautiful fabrics of silk were manufactured, and sent to all parts of the country ; cotton cloths and muslins, of different textures, were also extensively made, and met with a ready market, but from various causes, such as the great influx and cheapness of English manufactures, the taxation of the Nizam's government, and the exaction and rapacity of the public servants, the trade has greatly declined, and the numbers of these industrious artizans, have now diminished to 3 or 400, who are principally employed in making saarees, pugries, kummurbunds, coarse muslins, and the coarser kinds of cotton cloths. The cotton raised in the neighbourhood is chiefly used for home consumption, and is of a superior quality.

A beautiful description of scarlet dye is prepared and sent to Bombay, where it is much prized for the brilliancy of its colour.

Wood is scarce and dear, teak-wood being in greatest estimation ; it is brought from the jungles of Nirmul and Massuck, and is used in building, and making furniture.

The streets in the towns of Jaulnah and Khaderabad are very narrow ; the houses are tiled, and those belonging to the wealthier natives, are often ornamented with figures representing subjects of hindoo mythology. Some consist of three or four stories, with a corresponding number of verandahs and balconies. The ground floor is sometimes made of stone work, overlaid with burnt brick, and chunam, and the houses generally, have a cleanly appearance.

Clothing. The pugry, ungrekah, and dhoputtah, are the description of clothing in use with the men, and in the cold

weather, a quilted ungrekah, cumbly, and mahratta shoes, are always worn;—the usual cholie, and saaree, constitute the dress of the female.

Charpoys are in very general use, and all classes endeavour to possess them. Firewood and charcoal are brought from a distance of 20 miles, the former with dried cow-dung, is used for cooking, and fires of charcoal are kept burning by the more wealthy natives, in the cold weather, in their apartments.

Use of opium.

Opium is freely indulged in by the marwarries and mussulmans; and all castes and denominations give it to their children, till they are five or six years old, for the purpose of assuaging pain, and also to promote sleep, in order that their occupations may not be interfered with, by attendance on them. Opium is not however taken to excess by these people, and intoxication from the abuse, or too free indulgence in the drug, is rare.

State of Medicine.

There is a strong dislike to European medicines and medical attendance; and even native doctors, are frequently not consulted, till disease has made great advances, but when once sent for, advice is invariably followed. In fever, purgatives, chereyta, and abstinence, are recommended; in inflammatory affections of the spleen, liver and intestines, as also in rheumatism, the actual cautery is applied, and borne with fortitude, and with the utmost belief in its good effects.

The poor are not numerous, and work can readily be obtained by all labourers desirous of employment. It is computed that a labouring man can support himself for about one rupee and a half monthly, the few coarse articles of raiment required, included. For some years back there has been but little sickness amongst the resident natives, and the chief disease seen is fever of the intermittent form. The visitations of cholera were formerly frequent and severe, and the consequent mortality very great, but of late years it has seldom appeared.

There are some aged inhabitants among the population, one in particular, a mussulman, whose years amount to 95—there are others of different castes, whose ages vary from 80 to 90, and who although infirm, are still hale, and in the enjoyment of good health. Females are likewise long lived, and many mussulman as well as hindoo women, octogenarians, may be seen.

Water.

River water is always preferred by the natives when procurable for culinary purposes,—but although Jaulnah is abundantly supplied from wells, every garden possessing one, the water is seldom good, being highly impregnated with nitrate of potash. In the cantonment there are but two or three wells, the water of which is drinkable;—but even in the driest seasons, there is no scarcity.

Vegetable productions.

Sugar-cane is raised in the neighbourhood in abundance, but the coarsest description of sugar only, and that known under the name of "jaggery" is manufactured, the finer sorts, being brought a considerable distance from the Berar country. Wheat and jowaree, are raised in great quantities; the former when cheap is preferred to all other descriptions of grain, and during the harvest season, forty seers of the best quality can be obtained for a rupee, and sixteen wheaten loaves of the best description, are also to be had for a rupee. Chenna is raised in large quantities, but the description of grain called "cooltie" is not in much estimation, and is but little cultivated, the former is procurable during the harvest at from 60 or 65 seers per rupee.

European vegetable and fruits.

The climate of Jaulnah is admirably adapted for the purposes of horticulture—most European vegetables are raised in great perfection; figs, grapes, peaches, and strawberries, are all excellent in the season, the latter rival in size any met with in England, but are somewhat deficient in flavour; there is also a great variety and abundance of excellent European vegetables, such as peas, beans,

cabbage, knolkole, carrots, parsnips, turnips, celery, onions, potatoes and cauliflowers, as well as the more common country vegetables, of every description.

Cantonment

The cantonment* is situated on a gently sloping declivity, a small range of hills in front, from one to two miles distant, forming a sort of amphitheatre. The cavalry lines are on the south-east, those of the horse and foot artillery on the north-west, and the infantry in the centre. The town of Khaderabad lies within half a mile of old Jaulnah, and within two miles of the cantonment, in a south-westerly direction. The small river Koondulka, separates the towns of Khaderabad and Jaulnah, and forms the boundary of the cantonment.

The cantonment is capable of affording accommodation to one troop of European horse artillery, one regiment of native cavalry, and three regiments of native† infantry, having barracks, hospitals, store rooms, &c. for each; they were built in 1827, under the superintendence of an experienced Engineer.

Officers' houses.

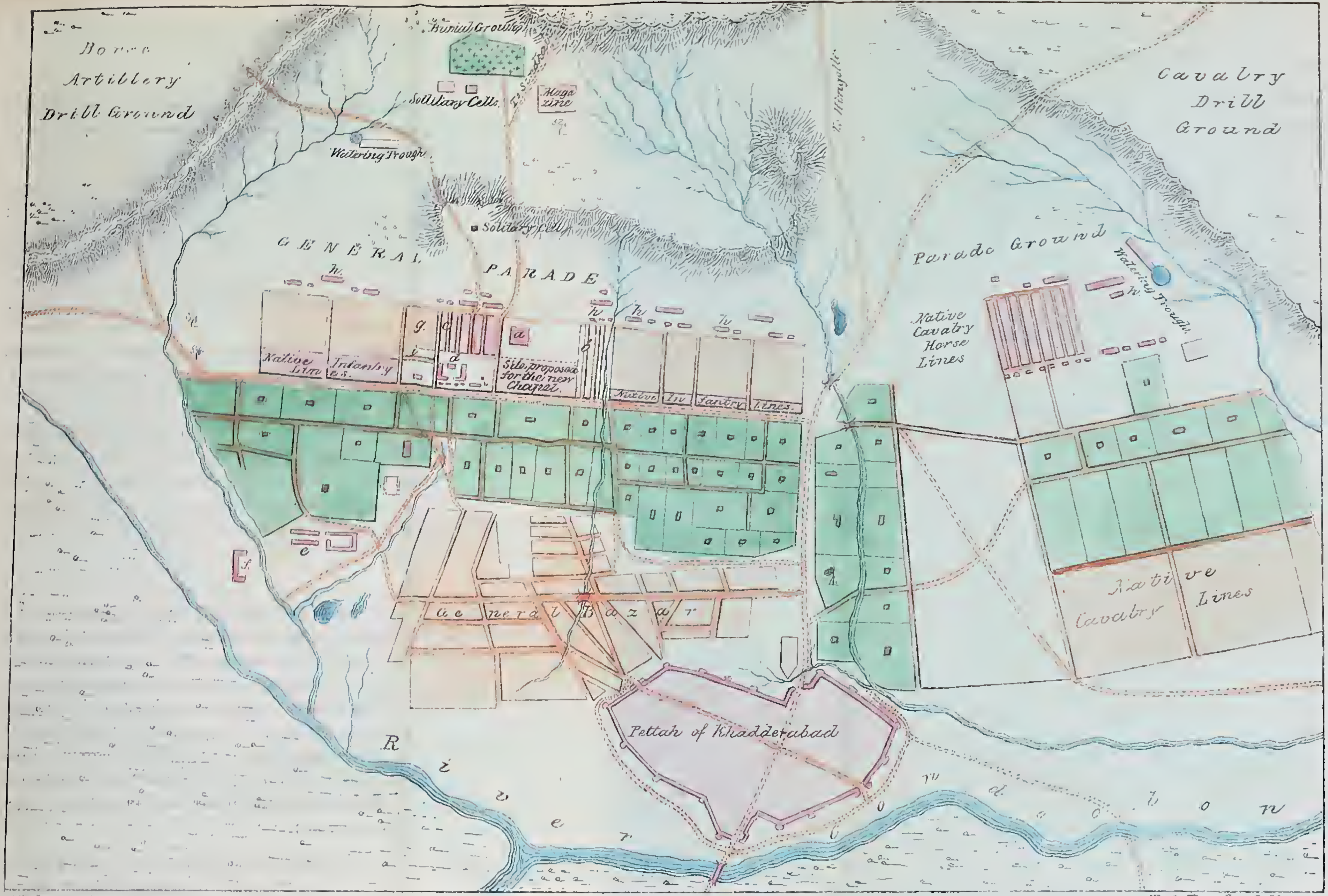
The houses in the officers' lines, are well built, having spacious compounds with good gardens, out houses and stabling, attached to them. The range of hills in the neighbourhood, does not deserve the appellation of mountain land, their height above the neighbouring country, scarcely reaching 150 feet; they are flat, or tabular on their summit, a formation peculiar to this part of the Deccan; a few are detached, solitary and conical, and all are extremely bare of vegetation, having merely a few stunted bushes here and there. Their sides slope gently, and a precipitous ridge is seldom to be met with.

River Koondulka.

The river Koondulka has its rise near "Tuperan" and "Rajore," two small villages situated about 16 miles to the northward. In its course, it receives several tributary streams, and empties itself finally into

* See plan annexed.

† Two of the lines for native corps are at present unoccupied, and in a ruinous condition.



Madras Lithographic Press. B. O. Regel. del.

PLAN of JAULNAH.

References.

a. Arsenal. b. Golundauze Lines. c. Horse Artillery Lines. d. Horse Artillery Barracks. e. Commissariat Godowns.
f. Asylum for the Poor. g. Horse Artillery Followers. hhhhh. Hospitals. i. Parchery.

the Doodna, a branch of the Godavery, fifteen miles to the south-east. During the monsoon it comes down with great violence, and at this period, is in many places a hundred yards broad, but on the cessation of the rains, it soon subsides, and in the dry season diminishes to scarce one foot and a half in depth, and ten or twelve in breadth; it is generally fordable at all seasons. The river water is much esteemed by the natives for domestic purposes. Excellent fish is occasionally procured from deep pools left in its bed, on the subsidence of the monsoon.

Cavalry lines. The Cavalry lines are situated on the south-east end of the cantonment, on a gentle acclivity, the barracks or places for saddlery and arms, eight in number, facing to the north ; the store rooms, gram godown, and standard yards, are on the opposite side, and lying parallel with them the horse lines ; in the centre is the hospital at the extreme end of the barracks ; within about a hundred yards, are the lines for sick horses, facing north and south. The officers houses are in rear of the barracks, and the sepoys huts 200 yards to the southward of these.

The hospital is capable of containing from 80 to 100 patients, it is flagged with rather a rough stone, has two doors in the centre, opposite each other, and at convenient distances are large windows fitted with shutters ; the walls are about 12 feet high, and the roof double tiled ; that is, flat tiles laid with chunnam, and the common tiles over them ; the roof of the verandahs, is of chunam, about four inches thick, laid on flat tiles, they are also flagged with square stones, and on either end of them are two small apartments, the store room, and surgery.

The barracks and other public buildings, are of similar materials as the hospital.

The hospital is well rasied having a flight of several steps on either side, and the barracks are also elevated about a foot from the foundation. The horses of the regiment are watered

from a well in the lines, the water being raised by means of a bullock puccotta, and flowing into a large trough.

Infantry Hospital and lines.

The hospital is airy, commodious, and capable of containing fifty bedsteads.

The sepoys huts are laid out in rear of the hospital, in regular streets, one for each company, and admit of a free circulation of air through them.

European Artillery barracks.

The barracks of the horse artillery are unexceptionably situated, on the highest ground in the cantonment, between the lines of two infantry corps, (one of which is now unoccupied), the ground in front being open for several miles ; a little to the right, and in front is the arsenal, the only building in advance of the lines. A branch of the river Koondulka, runs close to the left; and the barracks, serjeants quarters and store rooms, form the east and west sides of an oblong square, the north end of which is occupied by the cook rooms and godowns.

Hospital.

The hospital is a good building, close to the barrack, 60 feet by 21, and holds twenty cots, the east verandah forms a surgery, and the western one is appropriated as a female ward.

Drainage.

From the ground having a natural slope towards the river, the drainage in all parts of the contonment is good ; the roads are easily kept in repair, and the locality is in every respect well chosen, and favourable to the health of the troops.

REMARKS ON THE GENERAL TABLES.

Remarks on the general tables of disease.

The general table No. 1, for European troops includes the sick of H. M.'s regiments, and the H. C.'s Foot Artillery at Secunderabad, and also a Company of Horse Artillery at Jaulnah ; it shews the number of admissions into hospital, and the amount of mortality from the

most important diseases each half year, for the usual period of ten years, from 1829 to 1838. The annual per centage of sick to strength, of deaths to sick treated, and of deaths to strength, are also given, as in the preceding reports, the average of these, as exhibited in the abstract table No. 2, being 217·230, 2·895, and 6·289 respectively.

The admissions were considerably above the average in 1833, 1834 and 1835, especially in 1834, the increase each year being almost wholly occasioned by fever; the ratio of mortality was nearly doubled in 1834 and 1837, in the latter year, the result exclusively of dysentery, and in the former, partly occasioned by hepatitis also.

During the ten years the total admissions have been 22,933, and the total deaths in hospital 664, from an aggregate strength of 10,557 men. The most prevalent diseases have been *fevers, dysentery, hepatitis, venereal affections, rheumatism, diarrhœa* and *thoracic diseases*; the mortality has chiefly resulted from *dysentery, hepatitis,* and *fever,* but particularly *dysentery, one half of the whole number of deaths, having been occasioned by that disease.*

Malarious dysentery of a low typhoid character, has prevailed to a great extent in the several European regiments, which have from time to time occupied the barracks at this station, since they were erected in 1804. The mortality from this disease, 335 deaths, shown in the abstract table No. 2, and which as already mentioned, includes the sickness and deaths amongst the Artillery at Secunderabad and Jaulnah, will be seen from the following tables to have occurred almost exclusively amongst H. M.'s troops at Secunderabad. The per centage of deaths to strength from dysentery alone, amongst the Royal troops is 4·047, while the per centage of deaths, from all diseases amongst the Artillery, is only 4·052.

JAULNAH.

No. 11.—*Table exhibiting the number of Admissions and Dea amongst the European Horse Artillery at Jaulnah, from* 1829 *to* 1841, *exclusive of* 1831 *and* 1835.

CLASSES.	DISEASES.	Aggregate strength 1219. 1st Half. Ad.	1st Half. Dd.	2d Half. Ad.	2d Half. Dd.	Admissions and Deaths from each class of Disease. 1st Half. Ad.	1st Half. Dd.	2d Half. Ad.	2d Half. Dd.	Total admissions from each class.	Total deaths from each class.	Per centage of sick to strength.	Per centage of
Fevers......	Febrisephemera	51	0	32	0	411	2	639	3	1050	5	86 ·136	0
	,, intermit quot.	162	0	335	1								
	,, tertiana......	78	0	185	0								
	,, remittens.....	97	1	63	0								
	,, com. cont.....	23	1	24	2								
	Cholera	5	5	12	2	5	5	12	2	17	7	1 ·402	41
Diseases of the abdominal viscera......	Diarrhœa.......	59	0	99	0	201	2	312	8	513	10	42 ·083	1
	Dysenteriaacuta	56	2	101	7								
	,, chronica..	2	0	5	0								
	Obstipatio......	48	0	46	0								
	Dyspepsia.	14	0	20	0								
	Hœmorrhois. ..	22	0	37	0								
	Gastritis........	0	0	4	1								
	Hepatitis acuta	131	5	119	5	138	5	129	5	267	10	21 ·903	3
	,, chronica	7	0	10	0								
Diseases of the Lungs	Catarrhus......	29	0	16	0	45	0	34	0	79	0	6 ·480	0
	Asthma.........	5	0	6	0								
	Pneumonia.....	11	0	12	0								
Diseases of the Brain.	Apoplexia......	3	3	3	1	13	3	22	3	35	6	2 ·871	17 ·
	Epilepsia.......	5	0	1	0								
	Paralysis	1	0	3	0								
	Ebrietas........	4	0	9	0								
	Delirium Tremens.........	0	0	6	2								
Eruptive fevers......	Variola.........	1	1	0	0	3	1	0	0	3	1	0 ·246	33
	Varicella.	2	0	0	0								
	Ascites.........	0	0	3	0	0	0	3	0	3	0	0 ·246	0
Rheumatism......	Rheumatismus acutus..... ..	91	0	76	0	109	0	98	0	207	0	16 ·981	0
	,, chronicus.	18	0	22	0								
Venereal affections ..	Syphilis primitiva..........	116	0	71	0	182	0	140	0	322	0	26 ·415	0
	,, consecutiva ..	1	0	4	0								
	Gonorrhœa.....	31	0	32	0								
	Hernia humoralis...........	34	0	28	0								
	Strictura urethræ..........	0	0	2	0								
	Scrophula......	0	0	1	0	0	0	1	0	1	0	0 ·082	0 ·
	Morbi oculorum	20	0	40	0	20	0	40	0	60	0	4 ·922	0 ·
	,, Cutis......	12	0	11	0	12	0	11	0	23	0	1 ·886	0 ·
	Other diseases..	429	0	434	0	429	0	434	0	*863	0	70 ·795	0 ·
	Total..	1568	18	1875	21	1568	18	1875	21	3143	39	282 ·414	1 ·

* Of this number were Phlogosis.... 140. Ulcus 41.

NOTE.—Per centage of deaths to strength... 3·200

H. M.'s Regiments, and the H. C. Artillery at Secunderabad contrasted.

Table No. 12 and 13.	H. M.'s Regiments. *Aggregate Strength*, 7561. From 1829 to 1839 exclusive of 1833. Admitted.	Died.	Per centage of sick to strength.	Per centage of deaths to sick.	H. C. Artillery. *Aggregate Strength*, 1382. From 1829 to 1840 inclusive. Admitted.	Died.	Per centage of sick to strength.	Per centage of deaths to sick.
Fevers	4351	32	57·586	0·734	572	5	41·389	0·874
Cholera	75	28	0·991	37·333	6	3	0·434	50·000
Diarrhœa	851	11	11·255	1·292	224	3	16·208	1·339
Dysenteria acuta	2004	293	26·504	14·221	260	21	18·813	8·076
,, chronica	96	13	1·269	13·541	2	0	0·144	0·000
Hepatitis acuta	1201	72	15·881	5·995	236	8	17·076	3·389
,, chronica	220	14	2·909	6·363	3	1	0·217	33·333
Catarrhus	277	2	3·663	0·722	27	1	1·9 3	3·703
Hœmoptysis	14	2	0·185	14·285	3	0	0·217	0·000
Asthma	23	0	0·301	0·000	2	1	0·144	50·000
Phthisis pulmonalis	27	9	0·357	33·333	1	1	0·072	100·000
Pneumonia	185	5	2·446	2·702	15	0	1·085	0·000
Apoplexia	20	5	0·264	25·000	0	0	0	0
Epilepsia	58	2	0·767	3·448	6	1	0·434	16·666
Paralysis	25	5	0·330	20·000	4	0	0·289	0·000
Amentia	11	1	0·145	9·090	0	0	0	0
Mania	6	1	0·079	16·666	3	1	0·217	33·333
Ebrietas	127	0	1·679	0·000	69	1	4·992	1·449
Delirium tremens	188	3	2·486	1·595	59	1	4·269	1·694
Anasarca	39	9	0·515	23·076	4	0	0·289	0·000
Ascites	14	1	0·185	7·142	3	1	0·217	33·333
Rheumatismus acutus	542	1	6·930	0·190	180	0	13·024	0·000
,, chronicus	206	3	2·724	1·456	0	0	0	0
Syphilis &c	1863	5	24·639	0·263	246	0	17·800	0·000
Morbi oculorum	473	1	6·255	0·211	30	0	2·170	0·000
,, cutis	82	0	1·084	0·000	11	0	0·795	0·000
Other diseases	3150	24	41·661	0·761	1028	7	74·384	0·680
Total	16113	512	213·106	3·363	2991	56	216·642	1·870

Per centage of deaths to strength, 7·168.
Do. excluding cholera, ... 6·798.
H. M.'s Troops.

Per centage of deaths to strength, 4·052.
Do. excluding cholera, ... 3·835.
H. C. Troops.

Dysentery usually increases in severity and in extent, amongst the troops occupying the Infantry barracks, soon after the commencement of the monsoon, and Committees of Medical and Military officers have been appointed, at different times, to enquire into the probable exciting causes of the disease, but as yet without arriving at any satisfactory result.

Some of the best Medical authorities have attributed the disease to an endemial malarious condition of the atmosphere, occurring at a season when the vicissitudes of climate and the diurnal ranges of temperature are very great; whilst others have supposed it to be occasioned more, by the ill chosen situation and faulty construction of the barracks, than by climate.

In 1838, the barracks underwent a considerable alteration and improvment, the walls were raised, and ventilators made in the roof, additional doors opened, and verandahs erected all round, provided with venetians, and the drainage was also greatly improved. Subsequent to these alterations the barracks were occupied by the 1st Madras European regiment, and that corps suffered comparatively but little from dysentery; still it was *the most fatal disease* and from which 28 deaths, out of 65 in two years, (1840 and 1841) were occasioned. This regiment however it must be noticed, consisted of old acclimated soldiers, and arrived from Nagpore. H. M.'s 4th regiment, the next corps which occupied the barracks, on the contrary suffered as severely as any that preceded it; in 1843 this regiment buried 80 men from this disease, from an aggregate strength of 882 and in 1844 no fewer than 41 deaths from dysentery are recorded; thus shewing that the barracks alone, were not in fault.

The swampy ground on the south west, the range of rocky hills on the north east, intercepting the free current of air from that direction, and the more crowded condition of the Infantry barracks, have all probably contributed to produce

HYDERABAD SUBSIDIARY FORCE.

Table No. 1.—Return of sick of the European Troops, exhibiting the half yearly Admissions and Deaths, from the principal diseases, and those which have been either Epidemic or Endemic, during the period of ten years, from 1829 *to* 1838.

Diseases.

Years.			Admissions and deaths.	Apoplexy.	Atrophy.	Beriberi.	Cholera.	Cutaneous diseases.	Delirium Tremens.	Diarrhœa.	Dysentery.	Elephantiasis.	Fever ephemeral.	,, continued.	,, intermittent.	,, remittent.	Guinea Worm.	Hepatic diseases.	Insanity.	Leprosy.	Ophthalmy.	Rheumatism.	Small pox.	Syphilis &c.	Thoracic diseases.	Ulcer phagedenic.	Wounds & injuries.	Other complaints.	Strength each year.	Annual per centage of sick to strength.	Annual per centage of deaths to sick treated.	Annual per centage of deaths to strength.
1829	Admitted.	1st half.	1443	2	0	0	1	0	0	86	111	0	0	28	51	246	0	134	2	0	83	101	0	58	59	0	109	372	1223	218 ·806	1 ·569	3 ·434
		2d ,,	1233	0	0	0	5	0	0	86	121	0	0	32	55	149	0	116	1	0	41	85	0	79	30	0	108	319				
	Died.	1st half.	17	0	0	0	0	0	0	0	9	0	0	0	2	2	0	2	0	0	0	0	0	0	1	0	0	1				
		2d ,,	25	0	0	0	0	0	0	0	11	0	0	0	0	3	0	4	1	0	0	0	0	1	0	0	0	5				
1830	Admitted.	1st half.	1339	3	0	0	60	0	0	74	136	0	0	42	67	145	9	133	1	0	25	95	0	75	36	0	115	332	1210	193 ·966	2 ·513	4 ·876
		2d ,,	1008	2	0	0	2	0	0	47	103	0	0	31	27	130	0	109	0	0	44	83	0	63	15	0	101	251				
	Died.	1st half.	26	0	0	0	11	0	0	0	5	0	0	0	0	1	0	6	0	0	0	1	0	0	0	0	0	2				
		2d ,,	33	1	0	0	0	0	0	2	20	0	0	0	0	0	0	6	0	0	0	0	0	0	1	0	0	3				
1831	Admitted.	1st half.	1107	1	0	0	8	0	0	51	97	0	14	29	37	192	0	105	0	0	22	49	0	63	19	0	112	305	1181	184 ·674	1 ·971	3 ·640
		2d ,,	1074	2	0	0	10	0	0	121	66	0	2	39	23	125	0	68	0	0	69	57	0	71	18	0	88	315				
	Died.	1st half.	18	0	0	0	0	0	0	1	10	0	0	0	0	3	0	1	0	0	0	0	0	0	0	0	0	3				
		2d ,,	25	0	0	0	4	0	0	2	8	0	0	0	1	0	0	2	0	0	0	1	0	0	0	0	0	7				
1832	Admitted.	1st half.	993	1	0	0	5	0	0	62	33	0	9	25	19	121	0	72	0	0	30	57	0	62	31	0	154	312	1090	175 ·321	3 ·087	5 ·412
		2d ,,	918	0	0	0	34	0	7	68	96	0	5	46	24	76	0	61	0	0	25	34	0	76	18	0	115	233				
	Died.	1st half.	23	1	0	0	2	0	0	2	6	0	0	1	0	0	0	4	0	0	0	0	0	0	2	0	2	3				
		2d ,,	36	0	0	0	10	0	0	1	12	0	0	0	0	0	0	7	0	0	0	0	0	0	1	0	0	5				
1833	Admitted.	1st half.	1224	2	0	0	36	0	0	80	113	0	4	173	26	41	0	54	0	0	20	50	0	217	17	0	114	277	991	249 ·344	2 ·509	6 ·256
		2d ,,	1297	4	0	0	9	0	0	32	193	0	0	141	120	98	0	99	1	0	12	24	0	162	29	0	73	250				
	Died.	1st half.	20	1	0	0	5	0	0	0	5	0	0	1	0	2	0	0	0	0	0	1	0	1	1	0	0	3				
		2d ,,	42	3	0	0	2	0	0	1	13	0	0	1	1	6	0	6	1	0	0	0	0	0	2	0	2	4				
1834	Admitted.	1st half.	878	0	0	0	11	1	12	6	152	0	8	62	137	8	23	159	0	0	10	10	0	98	21	0	50	110	758	333 ·905	3 ·042	10 ·158
		2d ,,	1653	0	0	0	8	0	22	24	136	0	45	80	969	27	5	97	0	0	13	16	0	48	11	0	44	108				
	Died.	1st half.	33	0	0	0	3	0	0	0	13	0	0	0	1	1	0	12	0	0	0	0	0	0	0	0	0	3				
		2d ,,	44	0	0	0	1	0	1	1	15	0	0	1	6	3	0	11	0	0	0	0	0	0	1	0	0	4				
1835	Admitted.	1st half.	1244	0	0	0	7	9	26	47	80	0	26	107	444	3	6	99	0	0	7	43	0	64	31	1	96	148	884	260 ·972	2 ·557	6 ·674
		2d ,,	1063	0	0	0	9	0	44	59	167	0	54	68	190	8	3	94	0	0	9	40	0	74	17	0	69	158				
	Died.	1st half,	17	0	0	0	0	0	0	1	7	0	0	1	0	1	0	4	0	0	0	0	0	0	0	0	1	2				
		2d ,,	42	0	0	0	1	0	0	1	23	0	1	1	2	1	0	6	0	0	0	0	0	0	0	0	0	6				
1836	Admitted.	1st half.	844	5	0	0	3	6	35	64	59	0	21	36	37	6	0	62	2	0	12	62	0	113	37	0	72	212	1102	212 ·159	2 ·651	5 ·626
		2d ,,	1491	0	0	0	5	4	53	60	209	0	19	123	333	6	1	97	2	0	48	78	0	173	48	1	71	163				
	Died.	1st half.	12	1	0	0	0	0	1	1	4	0	0	0	1	1	0	1	0	0	0	0	0	0	1	0	0	1				
		2d ,,	50	0	0	0	0	0	0	0	32	0	0	2	5	0	0	8	1	0	1	0	0	0	0	0	0	1				
1837	Admitted.	1st half.	945	4	0	0	0	6	76	34	139	0	26	87	108	4	2	71	2	0	19	35	3	116	31	0	51	131	1124	196 ·797	6 ·238	12 ·277
		2d ,,	1212	2	0	0	10	8	30	47	320	0	9	91	191	5	2	99	0	0	20	42	0	104	36	0	43	153				
	Died.	1st half.	60	1	0	0	0	0	0	0	43	0	0	1	0	0	0	5	0	0	0	0	1	0	5	0	0	4				
		2d ,,	78	1	0	0	2	0	0	0	55	0	0	5	0	1	0	8	0	0	0	1	0	1	0	0	0	4				
1838	Admitted.	1st half.	988	2	0	0	1	3	20	22	133	0	13	60	103	3	0	72	0	0	17	46	0	229	15	0	83	136	994	202 ·615	3 ·128	6 ·338
		2d ,,	1026	0	0	0	10	4	5	86	196	0	11	79	160	0	0	82	0	0	11	34	0	167	13	0	47	121				
	Died.	1st half.	30	2	0	0	1	0	0	0	21	0	0	0	1	1	0	3	0	0	0	0	0	0	1	0	0	0				
		2d ,,	33	0	0	0	1	0	0	0	23	0	0	2	0	0	0	4	0	0	0	0	0	0	2	0	0	1				

HYDERABAD SUBSIDIARY FORCE.

Table No. 2.—Europeans—Abstract of the preceding Returns, shewing the Total number of Admissions, and Deaths, &c. from 1829 *to* 1838.

	Diseases.														
	Admissions and deaths.	Apoplexy.	Atroph·.	Beriberi.	Cholera.	Cutaneous diseases.	Delirium Tremens.	Diarrhœa.	Dysentery.	Elephantiasis.	Fever ephemeral.	„ continued.	„ intermittent.	„ remittent.	Guinea Worm.
Aggregate strength. 10,557.															
1829 to 1838. Admitted. 1st half.	11,005	20	0	0	132	25	169	529	1053	0	121	649	1029	769	31
1829 to 1838. Admitted. 2d „	11,928	10	0	0	102	16	161	630	1610	0	145	730	2092	624	11
Total..	22,933	30	0	0	234	41	330	1159	2663	0	266	1379	3121	1393	42
1829 to 1838. Died. 1st half.	256	6	0	0	22	0	1	5	123	0	0	4	5	12	0
1829 to 1838. Died. 2d „	408	5	0	0	21	0	1	8	212	0	1	12	15	14	0
Total..	664	11	0	0	43	0	2	13	335	0	1	16	20	26	0
Average per centage of sick to strength.	217·230	0·284	0	0	2·216	0·388	3·125	10·978	25·224	0	2·519	13·062	29·563	13·195	0·397
Do. of deaths to sick treated.	2·895	36·666	0	0	18·376	0	0·606	1·121	12·579	0	0·375	1·160	0·640	1·866	0
Do. of deaths to strength.	6·289	0·104	0	0	0·407	0	0·018	0·123	3·173	0	0·009	0·157	0·189	0·246	0

	Diseases.											
	Hepatic diseases.	Insanity.	Leprosy.	Ophthalmy.	Rheumatism.	Small pox.	Syphilis &c.	Thoracic diseases.	Ulcer phagedenic.	Wounds & injuries.	Other Complaints.
Aggregate strength. 10,557.											
1829 to 1838. Admitted. 1st half.	961	7	0	245	548	3	1095	327	1	956	2335
1829 to 1838. Admitted. 2d „	922	4	0	295	493	0	1017	235	1	759	2071
Total..	1883	11	0	540	1041	3	2112	562	2	1715	4406
1829 to 1838. Died. 1st half.	38	0	0	0	2	1	1	11	0	3	22
1829 to 1838. Died. 2d „	62	3	0	1	2	0	2	7	0	2	40
Total..	100	3	0	1	4	1	3	18	0	5	62
Average per centage of sick to strength.	17·836	0·104	0	5·115	9·867	0·028	20·005	5·323	0·018	16·245	41·735
Do. of deaths to sick treated.	5·310	27·272	0	0·185	0·384	33·333	0·142	3·202	0	0·291	1·407
Do. of deaths to strength.	0·947	0·028	0	0·009	0·037	0·009	0·028	0·170	0	0·047	0·587

HYDERABAD SUBSIDIARY FORCE.

Table No. 3.—Return of sick of the Native Troops, exhibiting the half yearly Admissions and Deaths, from the principal diseases, and those which have been either Epidemic or Endemic, during the period of ten years, from 1829 *to* 1838.

Years.			Admissions and Deaths.	Apoplexy.	Atrophy.	Beriberi.	Cholera.	Cutaneous diseases.	Delirium Tremens.	Diarrhœa.	Dysentery.	Elephantiasis.	Fever ephemeral.	„ continued.	„ intermittent.	„ remittent.	Guinea Worm.	Hepatic diseases.	Insanity.	Leprosy.	Ophthalmy.	Rheumatism.	Small pox.	Syphilis &c.	Thoracic diseases.	Ulcer phagedenic.	Wounds & injuries.	Other complaints.	Strength each year.	Annual per centage of sick to strength.	Annual per centage of deaths to sick treated.	Annual per centage of deaths to strength.
1829	Admitted.	1st half.	2489	1	0	0	4	0	0	55	26	0	0	15	510	126	0	2	2	0	53	254	0	139	10	0	355	907	9860	43 ·265	1 ·758	0 ·750
		2d „	1777	0	0	0	14	0	0	49	18	0	0	2	408	88	0	7	9	0	58	149	0	107	15	0	262	591				
	Died.	1st half.	38	0	0	0	0	0	0	1	2	0	0	1	8	10	0	0	0	0	0	1	0	1	1	0	0	13				
		2d „	37	0	0	0	4	0	0	2	1	0	0	0	4	5	0	1	1	0	0	1	0	1	0	0	2	15				
1830	Admitted.	1st half.	2018	0	0	0	62	0	0	59	11	0	0	13	319	71	0	5	14	0	31	134	0	84	14	0	258	910	9036	40 ·382	2 ·630	1 ·062
		2d „	1631	2	0	0	10	0	0	42	16	0	57	3	352	79	0	6	8	0	39	157	0	66	6	0	225	563				
	Died.	1st half.	69	0	0	0	36	0	0	0	1	0	0	2	3	2	0	1	0	0	0	4	0	1	2	0	3	14				
		2d „	27	2	0	0	3	0	0	3	1	0	0	1	1	1	0	0	0	0	0	3	0	0	2	0	0	10				
1831	Admitted.	1st half.	1479	1	0	0	60	0	0	31	5	0	99	6	138	38	0	2	8	0	44	132	0	58	1	0	235	621	8694	38 ·957	2 ·569	1 ·000
		2d „	1308	0	0	0	19	0	0	97	15	0	147	7	366	216	0	3	2	0	53	134	0	55	1	0	229	564				
	Died.	1st half.	49	1	0	0	29	0	0	1	2	0	1	0	3	0	0	0	0	0	0	2	0	0	1	0	0	9				
		2d „	38	0	0	0	11	0	0	4	1	0	1	1	3	2	0	0	0	0	0	2	0	1	0	0	1	11				
1832	Admitted.	1st half.	1947	0	0	0	10	0	0	31	26	0	255	10	193	167	0	6	4	0	44	172	0	60	2	0	261	703	8656	41 ·277	3 ·610	1 ·490
		2d „	1626	3	0	0	95	0	0	27	14	0	209	6	272	34	0	4	5	0	57	152	0	28	6	0	186	528				
	Died.	1st half.	41	0	0	0	7	0	0	1	2	0	0	4	6	2	0	1	0	0	0	3	0	0	0	0	1	14				
		2d „	88	2	0	0	53	0	0	2	1	0	0	1	5	2	0	0	0	0	0	2	0	1	0	0	1	18				
1833	Admitted.	1st half.	1951	1	0	0	93	0	0	23	11	0	180	5	319	105	0	2	4	0	33	155	0	37	6	0	196	781	8052	55 ·104	3 ·718	2 ·019
		2d „	2486	2	0	0	49	0	0	46	41	0	361	23	647	261	0	1	3	0	76	177	0	39	1	0	176	583				
	Died.	1st half.	88	1	0	0	43	0	0	2	0	0	0	2	7	1	0	1	0	0	0	1	0	0	1	0	2	27				
		2d „	77	1	0	0	20	0	0	1	6	0	0	0	11	4	0	1	0	0	0	4	0	2	0	0	1	26				
1834	Admitted.	1st half.	1712	0	10	8	1	16	1	32	13	0	218	4	774	153	8	3	0	0	27	73	0	59	15	0	121	176	5425	114 ·193	2 ·405	2 ·746
		2d „	4619	1	2	5	1	73	2	51	79	2	288	9	3255	148	11	1	4	0	23	167	0	57	31	0	217	222				
	Died.	1st half.	21	0	0	1	0	0	0	3	1	0	0	0	8	3	0	0	0	0	0	0	0	0	2	0	2	4				
		2d „	125	1	2	2	0	0	0	5	21	0	2	9	57	8	0	0	0	0	0	4	0	2	5	0	1	6				
1835	Admitted.	1st half.	3719	0	1	5	1	61	1	64	49	0	636	91	1653	65	36	3	11	0	40	228	0	74	15	0	233	452	7980	84 ·348	1 ·678	1 ·416
		2d „	3012	1	4	2	1	164	1	62	53	0	290	128	1277	23	9	1	5	0	36	186	0	60	58	0	115	536				
	Died.	1st half.	55	0	1	1	0	0	0	3	7	0	4	4	16	2	0	0	0	0	0	2	0	0	4	0	2	9				
		2d „	58	1	1	0	0	0	0	2	10	0	3	8	14	1	0	0	0	0	0	3	0	0	6	0	2	7				
1836	Admitted.	1st half.	2101	5	0	4	2	99	0	50	27	0	181	60	682	24	37	2	4	0	16	178	0	55	19	0	261	395	7885	58 ·922	1 ·894	1 ·116
		2d „	2542	0	2	0	0	72	1	62	46	0	180	97	1119	11	11	5	3	0	10	142	0	49	25	0	272	405				
	Died.	1st half.	47	0	0	0	0	0	0	5	4	0	0	1	13	2	0	0	0	0	0	4	0	2	6	0	0	10				
		2d „	41	0	1	0	0	0	1	6	5	0	0	3	7	0	0	0	0	0	0	0	0	0	2	0	4	12				
1837	Admitted.	1st half.	1777	1	0	0	87	59	5	47	19	0	60	44	420	24	15	2	1	0	32	155	11	51	26	0	265	423	7829	45 ·612	3 ·388	1 ·545
		2d „	1791	0	1	3	72	69	1	75	23	0	126	96	558	31	14	5	2	0	50	130	4	50	15	0	206	263				
	Died.	1st half.	62	0	0	0	40	0	0	1	2	0	0	1	3	2	0	0	0	0	0	3	0	0	4	0	2	4				
		2d „	59	0	0	0	34	1	0	1	0	0	0	1	7	3	0	1	0	0	0	1	1	0	5	0	0	4				
1838	Admitted.	1st half.	2187	1	3	4	9	59	0	101	44	0	202	47	634	29	17	3	4	0	26	204	13	67	47	0	228	445	7625	76 ·813	3 ·141	2 ·413
		2d „	3670	1	28	0	216	73	1	219	76	0	461	42	1520	51	19	7	5	0	50	193	0	54	19	0	264	368				
	Died.	1st half.	33	1	2	1	3	0	0	5	3	0	0	0	5	1	0	0	0	0	0	2	1	0	5	0	0	4				
		2d „	151	1	8	0	94	0	0	4	8	0	2	1	13	3	0	0	1	0	0	3	0	0	1	0	0	12				

HYDERABAD SUBSIDIARY FORCE.

Table No. 4.—Natives—Abstract of the preceding Returns, shewing the Total number of Admissions and Deaths, &c. from 1829 *to* 1838.

	Diseases.																									
	Admissions and deaths.	Apoplexy.	Atrophy.	Beriberi.	Cholera.	Cutaneous diseases.	Delirium Tremens.	Diarrhœa.	Dysentery.	Elephantiasis.	Fever ephemeral.	,, continued.	,, intermittent.	,, remittent.	Guinea Worm.	Hepatic diseases.	Insanity.	Leprosy.	Ophthalmy.	Rheumatism.	Small pox.	Syphilis &c.	Thoracic diseases.	Ulcer phagedenic.	Wounds & injuries.	Other Complaints.
Aggegate strength. 81.042																										
1829 to 1838. Admitted. 1st half.	21383	10	14	21	329	294	7	493	231	0	1834	295	5702	802	143	30	52	0	349	1685	24	684	155	0	2416	5813
1829 to 1838. Admitted. 2d ,,	25095	10	37	10	477	451	6	730	381	2	2122	413	9774	942	64	40	46	0	482	1587	4	565	177	0	2152	4623
Total..	46478	20	51	31	806	745	13	1223	612	2	3956	708	15476	1744	207	70	98	0	831	3272	28	1249	332	0	4568	10·436
1829 to 1838. Died...... 1st half.	506	3	3	3	158	0	0	22	24	0	5	15	72	25	0	3	0	0	0	22	1	4	26	0	12	108
1829 to 1838. Died...... 2d ,,	701	8	12	2	219	1	1	30	54	0	8	25	122	29	0	3	2	0	0	23	1	7	21	0	12	121
Total..	1207	11	15	5	377	1	1	52	78	0	13	40	194	54	0	6	2	0	0	45	2	11	47	0	24	229
Average per centage of sick to strength.	57 ·351	0·024	0·062	0·038	0·994	0·919	0·016	1·509	0·755	0·002	4·881	0·873	19·096	2·151	0·255	0·086	0·120	0	1·025	4·037	0·034	1·541	0·409	0	5·636	12·877
Do. of deaths to sick treated.	2 ·596	55·000	29·411	16·129	46·774	0·134	7·692	4·251	12·745	0	0·328	5·649	1·253	3·096	0	8·571	2·040	0	0	1·375	7·142	0·880	14·156	0	0·525	2·194
Do. of deaths to strength.	1 ·489	0·013	0·018	0·006	0·465	0·001	0·001	0·064	0·096	0	0·016	0·049	0·239	0·066	0	0·007	0·002	0	0	0·055	0·002	0·013	0·057	0	0·029	0·282

HYDERABAD SUBSIDIARY FORCE.

No. 5.—*Table exhibiting the number of Admissions and Deaths from each class of Disease, for 5 years.*

EUROPEAN TROOPS.

CLASSES.	DISEASES.	From 1834 to 1838. Aggregate strength 4862. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Admissions and deaths from each class of disease. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Total admissions from each class.	Total deaths from each class.	Average per centage of sick to strength.	Average per centage of deaths to sick.
Fevers......	Febris ephemera	94	0	138	1	1299	10	2469	30	3768	40	77 ·498	1 ·061
	,, intermit quot.	648	2	1369	11								
	,, tertiana......	181	1	475	2								
	,, remittens......	24	4	46	5								
	,, continua......	352	3	441	11								
	Cholera	22	4	42	4	22	4	42	4	64	8	1 ·316	12 ·500
Diseases of the abdominal viscera.......	Dysenteria acuta	517	79	999	143	563	87	1028	148	1591	235	32 ·723	14 ·770
	,, chronica......	46	8	29	5								
	Diarrhoea.......	173	2	276	3	409	3	528	8	937	11	19 ·271	1 ·173
	Colica..........	34	0	37	0								
	Obstipatio......	36	0	49	0								
	Hæmorrhois....	56	0	70	1								
	Enteritis........	12	0	5	0								
	Peritonitis......	0	0	0	0								
	Gastritis......	7	1	6	1								
	Dyspepsia.......	91	0	85	3								
	Hepatitis acuta.	395	18	404	27	463	25	469	37	932	62	19 ·169	6 ·652
	,, chronica......	68	7	65	10								
Diseases of the Lungs and Heart	Catarrhus	79	0	53	0	165	7	125	3	290	10	5 ·964	3 ·448
	Asthma	5	0	6	0								
	Phthisis pulmonalis.........	6	5	11	1								
	Hæmoptysis.....	6	1	8	0								
	Pleuritis.........	0	0	0	0								
	Pneumonia......	66	1	42	2								
	Carditis	1	0	2	0								
	Palpitatio	1	0	1	0								
	Dyspnoea	1	0	2	0								
Diseases of the Brain.	Apoplexia......	11	4	2	1	269	8	233	5	502	13	10 ·324	2 ·589
	Epilepsia.......	14	2	9	0								
	Paralysis.......	2	1	11	2								
	Cephalalgia	69	0	55	0								
	Phrenitis........	0	0	0	0								
	Ictus solis......	0	0	0	0								
	Amentia........	4	0	0	0								
	Mania..........	0	0	2	1								
	Hydrophobia...	0	0	0	0								
	Delirium Tremens.........	103	1	61	1								
	Ebrietas.........	66	0	93	0								
Diseases of the Eye..	Morbi oculorum........	65	0	101	1	65	0	101	1	166	1	3 ·414	0 ·602
Do. ,, Skin	,, cutis........	25	0	22	0	25	0	22	0	47	0	0 ·966	0
Eruptive Fevers......	Variola.........	3	1	0	0	10	1	8	0	18	1	0 ·370	5 ·555
	Varicella........	0	0	0	0								
	Rubeola........	4	0	0	0								
	Scarlatina	0	0	0	0								
	Erysipelas......	3	0	8	0								
Dropsies....	Anasarca......	16	2	10	4	23	5	19	5	42	10	0 ·863	23 ·809
	Ascites........	7	3	9	1								
	Hydrothorax...	0	0	0	0								
Rheumatic affections.	Rheumatismus acutus.......	133	0	143	0	197	0	214	1	411	1	8 ·453	0 ·243
	,, chronicus....	63	0	67	1								
	Neuralgia	0	0	0	0								
	Odontalgia.....	1	0	4	0								
Venereal affections..	Syphilis primitiva........	313	0	255	1	620	0	566	1	1186	1	24 ·393	0 ·084
	,, consecutiva...	47	0	34	0								
	Gonorrhœa.....	203	0	224	0								
	Hernia humoralis........	50	0	44	0								
	Strictura urethræ.........	7	0	9	0								
Specific diseases.....	Atrophia.......	2	0	0	0	47	0	21	0	68	0	1 ·398	0
	Beriberi.........	0	0	0	0								
	Elephantiasis...	0	0	0	0								
	Lepra..	0	0	0	0								
	Dracunculus....	34	0	11	0								
	Ulcus phagedenicum........	3	0	1	0								
	Scrophula......	7	0	6	0								
	Scorbutus......	1	0	3	0								
Punishment.	Punitus........	13	0	20	0	13	0	20	0	33	0	0 ·678	0
Wounds and injuries...	Fractura........	8	0	14	0	352	1	274	0	626	1	12 ·875	0 ·159
	Luxatio.........	4	0	4	0								
	Subluxatio......	48	0	43	0								
	Vulnus sclopetorum........	3	1	3	0								
	,, incisum......	47	0	35	0								
	Contusio	230	0	165	0								
	Ambustio	12	0	10	0								
Other diseases, including Phlogosis, Ulcus, &c............		357	1	309	4	357	1	309	4	*666	†5	13 ·698	0 ·750
	Total......	4899	152	6448	247	4899	152	6448	247	11347	399	233 ·381	3 ·561

Average per centage of deaths to strength during these five years, has been 8·206.

* Of this number were

Phlogosis..............	243	1
Do. Do. Ulcus.........	131	0
Do. Do. Bubo simplex.	88	0
Total......	465	1

† The deaths under this head, include besides those accounted for in the preceding note, two from splenitis, (under which head 62 admissions have taken place) one from cachexia, and one from hydarthrus.

No. 6.—*Table exhibiting the number of Admissions and Deaths from ea[ch] class of Disease, for 5 years.*

NATIVE TROOPS.

CLASSES.	DISEASES.	From 1834 to 1838. Aggregate strength 36.744. 1st Half. Ad.	Dd.	2d. Half. Ad.	Dd.	Admissions and deaths from each class of disease. 1st Half. Ad.	Dd.	2d. Half. Ad.	Dd.	Totaladmissions from each class.	Total deaths from each class.	Average per centage of sick to strength.	Average per centage of deaths to sick.
	Febris ephemera	1300	4	1348	7								
	,, intermit. quot.	3464	43	6792	90								
Fevers......	,, tertiana	699	3	937	8	6004	66	9713	142	15717	208	42 ·774	1 ·32
	,, remittens.....	295	10	264	15								
	,, continua.....	246	6	372	22								
	Cholera.........	100	43	290	128	100	43	290	128	390	171	1 ·061	43 ·84
	Dysenteria acuta	121	11	210	36								
	,, chronica......	23	6	67	8	144	17	277	44	421	61	1 ·145	14 ·48
	Diarrhœa........	294	16	469	18								
	Colica..........	80	0	46	0								
Diseases of	Obstipatio......	46	2	60	3								
the Abdo-	Hœmorrhois....	18	0	20	0								
minal Vis-	Enteritis........	1	0	3	0	549	20	711	30	1260	50	3 ·429	3 ·96
cera......	Peritonitis.....	0	0	1	1								
	Gastritis........	4	1	3	0								
	Dyspepsia......	106	1	109	8								
	Hepatitis acuta.	12	0	17	1								
	,, chronica......	1	0	2	0	13	0	19	1	32	1	0 ·078	3 ·12
	Catarrhus......	73	4	70	5								
	Asthma	16	6	44	1								
	Phthisis pulmonalis.........	7	4	9	5								
Diseases of	Hœmoptysis....	3	1	1	0								
the Lungs	Pleuritis.........	0	0	0	0	125	21	148	19	273	40	0 ·742	14 ·65
and Heart	Pneumonia.....	21	5	15	5								
	Carditis.........	0	0	1	0								
	Palpitatio	0	0	3	1								
	Dyspnœa.......	5	1	5	2								
	Apoplexia......	1	1	3	3								
	Epilepsia.......	6	2	17	2								
	Paralysis.......	8	1	13	1								
	Cephalalgia	41	2	30	0								
	Phrenitis.......	0	0	0	0								
Diseases of	Ictus solis......	0	0	0	0								
the Brain.	Amentia........	4	0	1	1	84	7	87	9	171	16	0 ·462	9 ·35
	Mania..........	16	0	16	0								
	Hydrophobia ..	1	1	1	1								
	Delirium Tremens.........	7	0	6	1								
	Ebrietas........	0	0	0	0								
Diseases of the Eye..	Morbi oculorum	141	0	199	0	141	0	199	0	340	0	0 ·925	
Do. Skin.	,, cutis......	294	0	451	1	294	0	451	1	745	1	2 ·027	0 ·13
	Variola.........	24	1	4	1								
Eruptive fe-	Varicella.......	156	0	33	0								
vers......	Rubeola........	16	0	0	0	200	2	40	1	240	3	0 ·653	1 ·25
	Scarlatina......	0	0	0	0								
	Erysipelas......	4	1	3	0								
	Anasarca........	29	4	53	9								
Dropsies....	Ascites.........	5	3	4	4	36	8	58	13	94	21	0 ·255	22 ·34
	Hydrothorax....	2	1	1	0								
	Rheumat acutus	345	4	340	3								
Rheumatic	,, chronicus	493	7	477	8								
affections.	Neuralgia.......	0	0	0	0	863	11	829	11	1692	22	4 ·604	1 300
	Odontalgia... ..	25	0	12	0								
	Syphilis primitiva..........	146	0	104	1								
	,, consecutiva	13	1	16	0								
Venereal af-	Gonorrhœa.....	63	0	60	1								
fections..	Hernia humoralis..........	80	0	84	9	306	2	267	2	573	4	1 ·559	08
	Strictura urethræ..........	4	1	3	0								
	Atrophia.......	20	3	35	10								
	Beriberi........	21	3	10	2								
	Elephantiasis...	0	0	2	0								
Specific dis-	Lepra..........	0	0	0	0								
eases.....	Dracunculus....	143	0	64	0	194	7	121	12	315	19	0 ·857	
	Ulcus phagedenicum.........	0	0	0	0								
	Scrophula......	10	1	10	0								
	Scorbutus......	0	0	0	0								
Punishment	Punitus.........	18	0	7	0	18	0	7	0	25	0	0 ·068	
	Fractura........	22	0	39	0								
	Luxatio	5	0	4	0								
	Subluxatio	61	0	71	0								
Wounds and	Vulnus sclopitorum..........	6	2	4	1	1107	6	1116	8	2223	14	6 ·049	0
injuries ..	,, incisum.......	141	2	118	3								
	Contusio.......	850	2	853	4								
	Ambustio.......	22	0	27	0								
Other diseases, including Phlogosis, Ulcus, &c............		1321	11	1334	13	1321	11	1334	13	*2655	†24	7 ·225	0
	Total....	11499	221	15667	434	11499	221	15667	434	27166	655	73 ·933	2

Average per centage of deaths to strength during these five years, has been 1·782.

* Of this number were

Phlogosis............	1390	2
Do. Do. Ulcus.......	811	4
Do. Do. Bubo simplex.	138	0
Total......	2339	6

† The deaths under this [head] include, besides those accou[nted] for in the preceding note, [one] from arthritis, one from diab[etes], one from dysuria, one from [...]uresis, one from epistaxis, [one] from fistula, in ano, one f[rom] hæmatemesis, one from ict[erus], one from scirrhus, three [from] splenitis, and two from te[...] the remaining four ha[ve not] been particularized.

SECUNDERABAD SUBSIDIARY FORCE.

No. 7.—*Table exhibiting the admissions and deaths from the most particular diseases, amongst the European and Native Troops, at Secunderabad and Jaulnah, during the ten years, from 1829 to 1838 inclusive, with the proportion each bears to the total number of Admissions and Deaths.*

	Cholera.		Fevers.		Dysentery.		Hepatitis.		Diarrhœa.		Thoracic diseases.		Rheumatism.		Syphilis.		Total from these compts	
	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.
Europeans.																		
Total Admissions....22,933	234	$\frac{1}{98}$	6159	$\frac{2}{7}$	2663	$\frac{2}{17}$	1883	$\frac{1}{12}$	1159	$\frac{1}{20}$	562	$\frac{1}{41}$	1041	$\frac{1}{22}$	2112	$\frac{1}{11}$	15813	$\frac{2}{3}$
„ Deaths.......... 664	43	$\frac{1}{15}$	63	$\frac{2}{21}$	335	$\frac{1}{2}$	100	$\frac{2}{13}$	13	$\frac{1}{51}$	18	$\frac{1}{37}$	4	$\frac{1}{166}$	3	$\frac{1}{221}$	579	$\frac{8}{9}$
Natives.																		
Total Admissions....46,478	806	$\frac{1}{57}$	21884	$\frac{1}{2}$	612	$\frac{2}{151}$	70	$\frac{2}{1323}$	1223	$\frac{1}{38}$	332	$\frac{1}{139}$	3272	$\frac{1}{14}$	1249	$\frac{1}{37}$	29448	$\frac{2}{3}$
„ Deaths.........1,207	377	$\frac{1}{3}$	301	$\frac{1}{4}$	78	$\frac{2}{31}$	6	$\frac{1}{201}$	52	$\frac{1}{23}$	47	$\frac{1}{26}$	45	$\frac{1}{27}$	11	$\frac{1}{110}$	917	$\frac{4}{5}$

No. 8.—*The following Table shews the per centage of admissions from the same diseases to the strength, of deaths to sick treated, and of deaths to the strength; it exhibits also the difference in these respects, amongst the European and Native sick.*

	Cholera.		Fevers.		Dysentery.		Hepatitis.		Diarrhœa.		Thoracic diseases.		Rheumatism.		Syphilis.		Total from these diseases.		Grand total.	
	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.
European Troops. STRENGTH, 10,557.																				
Per centage of sick to strength	234	2·216	6159	58·340	2663	25·224	1883	17·836	1159	10·978	562	5·323	1041	9·867	2112	20·005	15813	149·786	22933	217·230
„ of deaths to sick treated.	43	18·376	63	1·022	335	12·579	100	5·310	13	1·121	18	3·202	4	0·384	3	0·142	579	3·661	664	2·895
„ of deaths to strength..	43	0·407	63	0·596	335	3·173	100	0·947	13	0·123	18	0·170	4	0·037	3	0·028	579	5·484	664	6·289
Native Troops. STRENGTH, 81,042.																				
Per centage of sick to strength	806	0·994	21884	27·002	612	0·755	70	0·086	1223	1·509	332	0·409	3272	4·037	1249	1·541	29448	36·336	46478	57·351
„ of deaths to sick treated.	377	46·774	301	1·375	78	12·745	6	8·571	52	4·251	47	14·156	45	1·375	11	0·880	917	3·103	1207	2·596
„ of deaths to strength..	377	0·465	301	0·371	78	0·096	6	0·007	52	0·064	47	0·057	45	0·055	11	0·013	917	1·131	1207	1·489

SECUNDERABAD SUBSIDIARY FORCE.

No. 9.—*Table shewing the amount of Admissions and Deaths from the principal classes of disease for the period of five years, from* 1834 *to* 1838 *inclusive, with the proportion of Admissions from each to the total of sick treated, and of deaths to the total mortality.*

	Fevers.		Cholera.		Dysentery.		Abdominal complaints.		Diseases of the Liver.		Diseases of the Lungs.		Diseases of the Brain.		Dropsies.		Rheumatic affections.		Venereal complaints.	
	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.
European Troops.																				
Total Admissions.....11347	3768	$\frac{1}{3}$	64	$\frac{1}{178}$	1591	$\frac{1}{7}$	937	$\frac{1}{12}$	932	$\frac{1}{12}$	290	$\frac{1}{39}$	502	$\frac{1}{23}$	42	$\frac{1}{271}$	411	$\frac{1}{28}$	1186	$\frac{1}{10}$
„ Deaths........ 399	40	$\frac{1}{10}$	8	$\frac{1}{50}$	235	$\frac{4}{7}$	11	$\frac{1}{36}$	62	$\frac{1}{6}$	10	$\frac{1}{40}$	13	$\frac{1}{31}$	10	$\frac{1}{40}$	1	$\frac{1}{399}$	1	$\frac{1}{399}$
Native Troops.																				
Total Admissions ...27,166	15717	$\frac{1}{2}$	390	$\frac{1}{69}$	421	$\frac{1}{64}$	1260	$\frac{2}{43}$	32	$\frac{1}{844}$	273	$\frac{1}{99}$	171	$\frac{1}{157}$	94	$\frac{1}{287}$	1692	$\frac{1}{16}$	573	$\frac{1}{47}$
„ Deaths........ 655	208	$\frac{1}{3}$	171	$\frac{1}{4}$	61	$\frac{4}{43}$	50	$\frac{1}{12}$	1	$\frac{1}{655}$	40	$\frac{1}{16}$	16	$\frac{1}{41}$	21	$\frac{1}{31}$	22	$\frac{1}{30}$	4	$\frac{1}{164}$

No. 10.—*Table exhibiting the per centage of Admissions from the same classes of disease to the strength, of deaths to sick treated, and of deaths to strength, both amongst European and Native troops.*

	Fevers.		Cholera.		Dysentery.		Abdominal complaints.		Diseases of the Liver.		Diseases of the Lungs.		Diseases of the Brain.		Dropsies.		Rheumatic affections.		Venereal complaints.	
	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.
European Troops. STRENGTH, 4862.																				
Per centage of sick to strength	3768	77·498	64	1·316	1591	32·723	937	19·271	932	19·169	290	5·964	502	10·324	42	0·863	411	8·453	1186	24·393
„ of deaths to sick.....	40	1·061	8	12·500	235	14·770	11	1·173	62	6·652	10	3·448	13	2·589	10	23·809	1	0·243	1	0·084
„ of deaths to strength..	40	0·822	8	0·164	235	4·833	11	0·226	62	1·275	10	0·205	13	0·267	10	0·205	1	0·020	1	0·020
Native Troops. STRENGTH, 36,744.																				
Per centage of sick to strength	15717	42·774	390	1·061	421	1·145	1260	3·429	32	0·087	273	0·742	171	0·462	94	0·255	1692	4·604	573	1·559
„ of deaths to sick.....	208	1·323	171	43·846	61	14·489	50	3·968	1	3·125	40	14·652	16	9·356	21	22·340	22	1·300	4	0·698
„ of deaths to strength..	208	0·566	171	0·465	61	0·166	50	0·136	1	0·002	40	0·108	16	0·043	21	0·057	22	0·059	4	0·010

the baneful results, and appear to justify the situation being altogether abandoned.

With respect to the comparative immunity from dysentery experienced by the artillery, there seems to be little doubt that the more open and elevated position on which their barracks stand, and the superior construction of them, contribute much to preserve the men in health ; although these circumstances, are perhaps not adequate fully to account for the great difference exhibited in the tables.

The total admissions during each half yearly period are nearly equal, but the numbers under the heads fever and dysentery, are most numerous during the second half yearly period, while at the same time it will be observed, that the increase in the number of deaths, during this period, has been wholly occasioned by these diseases, and hepatitis. Comparatively few deaths have taken place from Cholera amongst the European troops in this division ; it occurred to a limited extent in 1830, 1832 and 1833. In January 1830, the Madras European regiment lost 6 men at Secunderabad, out of 30 attacked ; the left wing of the same regiment in November 1832, while marching from Masulipatam, buried 9 men from 31 attacks ; and in May 1833, H. M.'s 45th lost 2 men, out of 26 attacked.

Tables No. 3 and 4, shew the amount of admissions and deaths, from the same diseases, which have occurred amongst the native troops at Secunderabad and Jaulnah, during a period of ten years. The total number treated has been 46,478, and 1,207 deaths have occurred in an aggregate strength of 81,042 men ; the average per centage of sick to strength has been 57·351, of deaths to sick treated 2·596. and of deaths to strength 1·489.

Fevers, rheumatism and bowel complaints, have occasioned the most numerous admissions, and the mortality has resulted principally from these diseases and *cholera*. The admissions were considerably above the average in 1834, 1835, and 1838 ; and the mortality it will be observed, was greater than

usual in 1833, 1834 and 1838, in consequence of the greater prevalence of fever and cholera.

During the second half yearly period, as amongst the European troops, the number of admissions especially from acute disease, exceed those in the first half yearly period; the mortality also preponderates in a corresponding degree, from the greater prevalence and severity of fever, bowel complaints and cholera; the latter disease having appeared more or less in an epidemic form in 1830, 31, 32, 33, 37 and 1838; and it is worthy of remark that except in 1831, when in the month of January, the 50th regiment N. I. lost 28 men, out of 55 attacked, on the march from the northern divison, all these outbreaks of cholera, occurred amongst the troops while stationary at Secunderabad and Jaulnah. Thus in June 1837, 65 cases of cholera with 25 deaths, occurred in the 34th and 37th regiments N. I., at Secunderabad, and in July 1838, the 20th regiment buried 48 men out of 146 attacked, at the same station.

In the tabular statements Nos. 7 and 8, the comparative prevalence of the principal diseases amongst both European and native troops and mortality are contrasted, as in the reports of the preceding divisons; they afford at one view much interesting information on several points.

The other tables Nos 5 and 6, exhibit the admissions and deaths, from each disease, in the various classes, as in the former reports, during the five years from 1834 to 1838 inclusive;—the total sick from each class is also shewn, with the mortality, and the per centage of admissions to strength, and of deaths to sick treated. Amongst the European troops the greatest number of admissions have been from *fevers, bowel complaints*, including *dysentery and hepatitis, venereal affections, diseases of the brain and rheumatism;* and the most fatal have been *bowel complaints, fevers,* and *diseases of the brain.* The total admissions amount to 11,347, and the deaths 399, from an aggregate strength of 4,862 men, giving as the average per centage of sick to strength 233·381,

of deaths to sick treated 3·516, and of deaths to strength 8·206, being in these respects considerably above the average shewn in the preceding table for ten years.

In table No. 6, for Native troops, the numbers of admissions have been greatest from *fevers, bowel complaints and rheumatism;* and the greatest mortality has resulted from *fever, cholera, bowel complaints, diseases of the lungs, dropsies* and *rheumatism.* The total admissions into hospital have been 27,116, the deaths 655, from an aggregate strength of 36,744 men; the per centage of sick to strength being 73·933, of deaths to sick treated 2·411, and of deaths to strength 1·782; agreeing in these respects pretty closely, with the results given in table No. 4, for ten years.

The tabular statements No. 9 and 10, have been framed from these two returns, as usual; and they exhibit at one view, the proportion and percentage of admissions and deaths, from the principal classes of disease, both amongst the European and native troops.

The three following tables exhibit the sickness and mortality, which have occurred amongst the officers, the women, and the children of H. M.'s regiment, at Secunderabad, during a period of ten years.

SECUNDERABAD.

No. 14.—*Table exhibiting the sickness and mortality amongst the OFFICERS of H. M.'s Regiments at Secunderabad, during a period of ten years, from* 1829 *to* 1839, *exclusive of* 1833.

Aggregate strength 274. CLASSES.	DISEASES.	Admissions.	Deaths.	Total Admissions from each class.	Total deaths from each class.	Per centage of sick to strength.	Per centage of deaths to sick
Fevers......	Febris int. quot	49	0	182	4	66 ·423	2 ·197
	,, remittens..	66	2				
	,, com. cont.	67	2				
	Cholera	1	1	1	1	0 ·361	100 ·000
Diseases of the Abdominal viscera.......	Diarrhœa	48	0	92	5	33 ·576	5 ·434
	Dysenteria.. ...	23	5				
	Obstipatio......	8	0				
	Hæmorrhois....	4	0				
	Dyspepsia......	9	0				
	Hepatitis.......	41	2	41	2	14 ·964	4 ·878
Diseases of the Lungs	Catarrhus......	70	0	80	0	29 ·197	0 ·000
	Phthisis pulmonalis.........	2	0				
	Asthma........	0	0				
	Hæmoptysis....	2	0				
	Pneumonia.....	6	0				
Do. of the Brain.	Apoplexia......	3	1	6	1	2 ·189	16 ·666
	Epilepsia.......	1	0				
	Paralysis.......	1	0				
	Delirium Tremens.........	1	0				
	Anasarca.......	1	0	1	0	0 ·364	0 ·000
	Variola.........	1	1	1	1	0 ·364	100 ·000
	Rheumatismus,	33	0	33	0	12 ·043	0 ·000
Venereal affections..	Syphilis prim..	13	0	42	0	15 ·328	0 ·000
	,, Consecutiva	1	0				
	Gonorrhœa.. ..	26	0				
	Hernia humor..	1	0				
	Strictura urethrae.........	1	0				
	Morbi oculorum	3	0	3	0	1 ·094	0 ·000
	,, cutis....	6	0	6	0	2 ·189	0 ·000
	Other diseases.	151	0	151	0	55 ·109	0 ·000
	Total..	639	14	639	14	233 ·211	2 ·190

NOTE.—Per centage of deaths to strength, 5·109.

SECUNDERABAD.

No. 15.—*Table exhibiting the sickness and mortality amongst the WOMEN of H. M.'s Regiments at Secunderabad, during a period of ten years, from* 1829 *to* 1839, *exclusive of* 1833.

Aggregate strength. 1085. CLASSES.	DISEASES.	Admissions.	Deaths.	Totaladmissions from each class.	Total deaths from each class.	Per centage of sick to strength.	Per centage of deaths to sick.
Fevers......	Febris intermit quot.	154	1	403	9	37 ·142	2· 233
	,, tertiana......	19	0				
	,, remittens.	133	6				
	,, continua......	97	2				
	Cholera....	14	7	14	7	1 ·290	50 ·000
Diseases of the abdominal viscera.	Diarrhœa.......	82	5	372	36	34 ·285	9 ·677
	Dysenteria......	181	26				
	Peritonitis......	13	4				
	Colica.........	46	1				
	Dyspepsia......	16	0				
	Obstipatio.	12	0				
	Hæmorrhois. ...	10	0				
	Splenitis........	9	0				
	Enteritis.... ...	3	0				
	Hepatitis.......	86	2	86	2	7· 926	2 ·325
Diseases of the Lungs	Catarrhus......	20	1	42	7	3 ·870	16 ·666
	Dyspuœa.......	4	0				
	Asthma........	11	0				
	Phthisis pulm..	6	6				
	Hæmoptysis....	1	0				
Diseases of the Brain.	Epilepsia.	1	0	23	3	2 ·119	13 ·043
	Paralysis........	1	0				
	Hysteria........	13	0				
	Tetauns........	1	1				
	Delirium trem..	4	0				
	Ebrietas........	3	2				
Eruptive fevers......	Variola.........	9	1	15	1	1 ·382	6 ·666
	Varicella.......	3	0				
	Rubeola........	1	0				
	Erysipelas.,....	2	0				
	Anasarca.......	3	1	3	1	0 ·276	33 ·338
	Rheumatismus..	27	0	27	0	2 ·488	0· 000
Peculiar diseases..	Amenorrhagia..	1	0	44	1	4 ·055	2 ·270
	Menorrhagia. ..	12	0				
	Parturitio.......	26	0				
	Abortio.........	4	0				
	Scirrhus........	1	1				
	Morbi oculorum	35	0	35	0	3 ·225	0 ·000
	,. cutis......	2	0	2	0	0 ·184	0 ·000
	Other diseases..	127	2	127	2	11 ·705	1 ·574
	Total..	1193	69	1193	69	109 ·95	5 ·783

NOTE.—Per centage of deaths to strength, 6·359.

SECUNDERABAD.

No. 16.—*Table exhibiting the sickness and mortality amongst the CHILDREN, of H. M.'s Regiments at Secunderabad, during a period of ten years, from* 1829 *to* 1839, *exclusive of* 1833.

Aggregate strength. 1343. CLASSES.	DISEASES.	Admissions.	Deaths.	Totaladmissions from each class.	Total deaths from each class.	Per centage of sick to strength.	Per centage of deaths to sick.
Fevers.	Febris intermit quotid........	350	2	784	28	58 ·376	3 ·570
	,, remittens.. ...	177	12				
	,, continua......	257	14				
	Cholera	7	3	7	3	0 ·521	42 ·857
Diseases of the Abdominal viscera......	Diarrhœa	203	31	399	79	29 ·709	19 ·795
	Dysenteria......	169	39				
	Obstipatio......	7	0				
	Marasmus.......	15	9				
	Colica..	4	0				
	Icterus.	1	0				
	Hepatitis.	7	1	7	1	0 ·521	14 ·286
Diseases of the lungs.	Cynanche	12	3	85	9	6 ·329	10 ·588
	Catarrhus......	58	3				
	Pneumonia.....	3	2				
	Pertussis.	12	1				
Diseases of the brain.	Convulsio	50	38	57	44	4 ·244	77 ·192
	Epelepsia.......	1	0				
	Hydrocephalus.	5	5				
	Phrenitis.......	1	1				
Eruptive fevers......	Variola.........	24	3	91	7	6 ·775	7 ·692
	Varicella.......	33	0				
	Rubeola	30	3				
	Erysipelas......	4	1				
	Vermes........	2	0	2	0	0 ·148	0 ·000
	Morbi oculorum	77	0	77	0	5 ·733	0 ·000
	,, Cutis......	29	1	29	1	2 ·159	3 ·448
	Other diseases..	93	2	93	2	6 ·924	2 ·150
	Total..	1631	174	1631	174	121 ·444	10 ·668

Note.—Per centage of deaths to strength, 12·956.

NAGPORE.

General description. The extensive country subject to the Rajah of Nagpore, a powerful Mahratta prince, embraces that part of central India called Berar—and includes the provinces of Gundwanah,—of which the city of Nagpore is the capital, *Chotees-ghur, and Chandah. It is somewhat of a triangular shape, the base being towards the province of Allahabad, in Bengal, and the sides towards the Hyderabad territories, and the country of Orissa.

It lies between the parallels of north latitude 22° 40′, and 17° 20′, and between 78° and 83°, of east longitude—and is bounded on the north by Allahabad ; on the west and south-west by Hyderabad, from which it is separated by the Wurda and Godavery rivers, and on the east and south-east, by Bahar and Orissa, the Maha-nuddy or great river, being its natural boundary throughout a considerable part of the eastern confines. The general surface of the country is irregularly mountainous and hilly ; but there are many extensive highly cultivated plains, and also tracts of jungle or forest, covered with long coarse† grass, which in various places attains a height of 14 feet.

Rivers. The principal rivers are the Maha-nuddy and Wurda—The Maha-nuddy takes its rise in the mountainous parts of the Chotecs-ghur district, and running first southerly, and then in an eastern direction, after an extremely tortuous course, and receiving many tributary streams, opens into the sea, 50 miles below Cuttack. The Wurda as before noticed, rises in the north-eastern part of Berar, and forming the line of boundary between the Nagpore and Hyderabad countries, unites with the Godavery at Serlouncheh.

Vegetable Productions. Though a great part of the country consists of waste land, and thinly peopled, jungly tracts, other portions

* The 36 Forts, or Ghurries.

† Called Elephant grass.

are highly cultivated and extremely fertile, producing luxuriant crops of wheat, rice, cholum, ragghy, cotton, and sugar-cane, with several kinds of plants from which oil is obtained.

Articles of Export, &c.

The staple productions may be said to be cotton and grain, which are exported in considerable quantities, the former to the Bombay market, and the latter to the southern provinces; being transported chiefly on bullocks, the only carriage in use, and these bring back salt, cocoanuts, and cocoanut-oil, spices, betel,&c. Timber, both for building and for firewood, is floated down the river Kunnan at the termination of the rains, and is also sometimes dragged up the stream by manual labour, but water carriage does not appear to be employed for any other purpose.

Political occurrences, connected with the English.

A considerable body of troops, called the Nagpore Subsidiary Force, has occupied this country since the year 1817, when in consequence of the treachery of the late rajah, Appah Sahib, in attacking a small force attached to the British resident at his court, he was dethroned, and kept some time in confinement, but ultimately escaped from his guards, and fled the country.

On the present prince, named Rajogee the Third, being placed on the musnud, an additional contingent force, consisting of 3,000 irregular or Mahratta horse, and two regiments of native infantry, officered by Europeans, was agreed by treaty, to be kept up for the preservation of the general peace. In 1830 however, an arrangement was entered into between the two governments, for disbanding the rajah's contingent, on condition of the payment of a certain annual tribute.

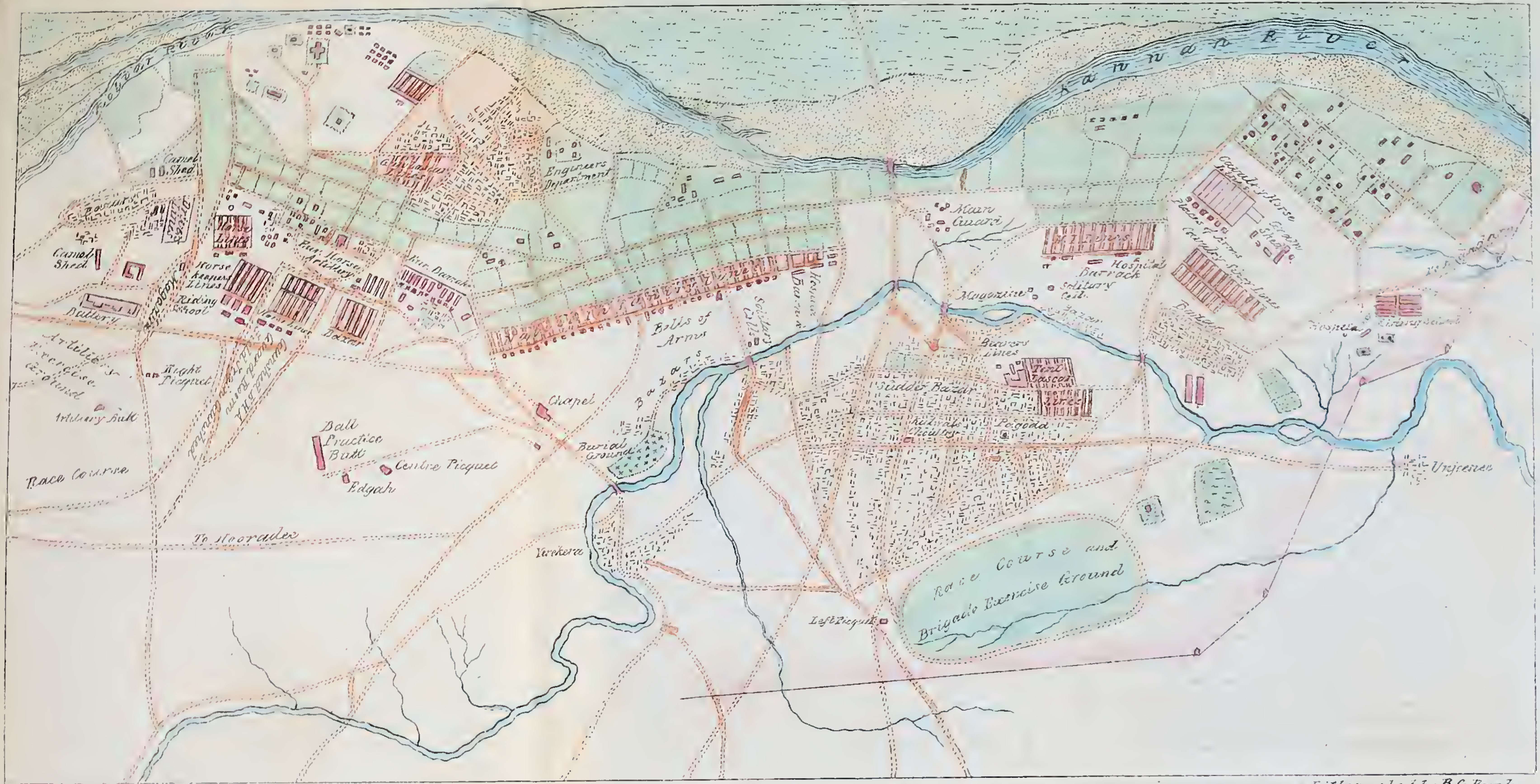
Subsidiary force.

The subsidiary force consists of one regiment of native cavalry, one troop European horse artillery, a battalion of foot artillery, one regiment of European infantry and four regiments of native infantry,—who are stationed at Kamptee, ten miles east of the city of Nagpore.

Station of Kamptee.

Kamptee.

Kamptee being now the only station occupied by the Company's army, throughout the Nagpore country,



Madras Lithographic Press.

Lithographed by B. C. Regel.

PLAN of the CANTONMENT of KAMPTEE.

no information has been procurable by the Medical Board, relative to the general statistics of the provinces, except that which relates to Kamptee itself, and its immediate neighbourhood.

Kamptee is distant from Madras 722 miles, (travelling distance,) from Secunderabad 324, from Hoosingabad 178, from Calcutta 733, and from Bombay 577 miles.

Roads. There are four principal roads used by troops coming from, or returning to the Company's country—one by Chandah, along the Godavery, leading to Ellore; one by Ryepore towards Berhampore; and two to Hyderabad, one the most direct route by Nirmul, the other by Hingolee. The road by Chandah is in good order almost the whole way, but supplies are scarce, and there being a most unhealthy jungle to pass through, it is seldom travelled; and very rarely during the rainy, or cold seasons, on account of the rank and extensive jungle, from near Chandah, to within four stages of Ellore. The Nirmul road also, is unsafe during several months, and troops should not be sent by it, from the 1st of June, till the 1st of January. From the middle of August till the beginning of December, is the most dangerous period, but the journey is often made by posting, even in these months, without much apprehension, the time so occupied, being less than five days to Hyderabad. The road by Hingolee is sooner open, and regiments destined for the force, which pass through Secunderabad, towards the end of the year, are usually sent by it. The road by Ryepore is used by the regiments coming from Berhampore; they usually leave the Northern division in January, and arrive at Kamptee about the middle of March. The post to Calcutta goes along the same line, to within about 30 miles of Sumbhulpore, but travellers proceeding to Calcutta, prefer the road viâ Mirzapore, and from thence down the Ganges. There are two great northern roads towards the Nerbuddah, one leading to Hoossingabad, the other to Jubbulpore, but both are unsafe from August till December, on account of the jungle

to be traversed. The roads to Ellichpore and Jaulnah, are not considered unhealthy at any time, but the black soil during the rains, renders them extremely difficult to travel over.

Cantonment of Kamptee.

On the termination of the last Mahratta war, a cantonment for the subsidiary force was formed close to the British residency at Nagpore, at the foot of the celebrated Seetabuldee hill. The situation however proving unhealthy, it was abandoned after a few years, and a new site for a cantonment, ten miles east-ward of the city, selected on the bank of the Kunnan river.

The cantonment of Kamptee is situated in north latitude 21° 10″, and east longitude 79° 50,″ and occupies an extent of four miles and a half, along the right or south bank of the river Kunnan, which here pursues a tortuous course from west to east.*

The soil of the cantonment is the common black earth, of this part of the Deccan, interspersed with a very large proportion of the calcarious nodules, commonly called kunkar, its depth being in most places considerable. The surrounding country, for many miles in extent, is flat, destitute of wood, much intersected by ravines, and is only under cultivation during the cold and rainy seasons.

The ground is elevated, undulating and in some parts near the bazaars, and close to the river, much broken up into ravines, and nullahs.

The principal roads in the cantonment, are kept in good order, and those leading to the surrounding villages, afford sufficiently easy means of communication.

The officers houses, are for the most part situated close to the bank of the river, having spacious compounds, with excellent gardens.

The first range of houses on the bank of the river, is intended for field officers, and for the general staff, (the hospital

* This river takes its rise in a range of hills about 120 miles distant to the north-west, and empties itself into the Wyne Gungah, 51 miles below Kamptee, near Bundarla.

Madras Lith. Press. B. C. Regel, Lith.r

VIEW of the RIGHT WING and MAIN GUARD EUROPEAN REGIMENT at KAMPTEE.

of one of the native corps, near the centre of the cantonment, being also on the bank of the river) the houses in this range are large and commodious, with extensive grounds attached to them, and the principal road runs along their whole extent. In front of these are the captains lines, another road separating them from those of the subalterns.*

A road intervenes between the sepoys huts, regimental bazaars, and the officers houses; the hospitals of the several native regiments, and the places of arms being parallel to, and in front of their respective regiments; the exceptions being that before mentioned, and the hospital of the native corps at the west end, which stands by itself, near the commencement of the European lines.

The places of arms of the cavalry are on a line with the stables, and the hospital is at the extreme east end.

In the centre of the cantonment are the Parsee's shops, the parade ground, the main piquet, and further south the sudr bazaar, to which a bridge thrown across a large ravine, leads. The bazaar is of considerable extent, having houses and shops of all descriptions and sizes, and as well as the Parsee's shops, contain every thing that can be required, either by natives or Europeans.

European Barracks. At the west of the lines, are the European barracks, which are commodious, lofty and situated on high ground, surrounded with excellent enclosed verandahs,* and calculated to accommodate 1000 men. The barracks of the horse artillery adjoining them, are built in a similar manner, and enclosed at one end with a gate, having an open square in the front, they likewise are lofty and airy. In the same line further west, are the foot artillery barracks, consisting of two long ranges of buildings. A small, but well ventilated hospital, and places of arms, complete for a troop of native horse artillery follow next; and at the extreme east end, are several buildings for the use of the commissariat. Descending towards the river, are the three European hos-

* The houses are all thatched, and require some repairs annually, before the rains, and the grass is renewed about once in four or five years.

pitals, and the officers racket court; the hospitals are on well raised ground, open at all sides; that of the European regiment is situated about half a mile from the barracks, the artillery hospital being only half that distance from their barracks.

Bazaar.

The European bazaar lies between the barracks and the river, and is well stocked with supplies of all kinds.

Public Buildings site of.

With respect to public buildings their construction is eminently calculated to afford comfort, and preserve the health of the troops.—The lines of the native corps too, are for the most part on elevated ground, and the officers quarters, are perhaps the best to be found through the Madras presidency, though many of the buildings are not sufficiently raised, to render them free from damp in the rainy season.

River, banks of not unhealthy.

Though the banks of rivers are by some good authorities thought objectionable, as the site of camps or cantonments, no fault can be found with the ground at Kamptee on this account; the banks of the Kunnan being perfectly bare of every kind of wood and vegetation, except crops of dry grain, usually cultivated throughout the country; and the bed of the river is chiefly sand with rocks, though some muddy banks are left on the subsiding of the waters.

Neighbouring Jungles the source of malaria.

For a more probable source of malaria and consequent disease, the tracts of jungle both dense and extensive, by which both Nagpore and Kamptee are encompassed, may be looked to—This fruitful source of fever is distant from the north-east point of the city of Nagpore about 20 to 30 miles, but though the cantonment at Kamptee is ten miles nearer the heaviest part of the jungle, than the lines formerly occupied by the Madras troops, the Europeans as well as natives, are found to have generally suffered less from sickness, than in the position first taken up. It may therefore be presumed that the deleterious principle of the jungle atmosphere, becomes diluted or dissipated, in the open country, lying around the lines of the new cantonment.

Climate. This climate is remarkable among the Madras stations, both for the extremes of heat and cold experienced; and the year is naturally divided into three seasons, viz. the cold, hot and rainy. The transitions are generally regular and gradual, and may be anticipated to set in almost uniformly, at certain periods. The cold season commences about the 20th October, and continues till the middle of March;—December and January, being the coldest months.

There is a considerable diurnal range of temperature at this period, which is extremely prejudicial to weak constitutions, and to such as have been debilitated by disease or other causes; unless great attention be paid to precautionary measures, such as appropriate clothing;—regularity in diet and habits; and taking regular exercise, in the open air, morning and evening.

There are usually heavy dews, which are highly beneficial for agricultural purposes; and in the early part of the season fogs prevail—more particularly along the ravines and nullahs, where moisture exists to a greater extent than in the open plains. The mean temperature at this time, may be stated at 68° in the house, the lowest observed outside at sunrise, has been 36°* Far; and the highest 110°, from noon to 3 P. M.

The hot season includes from the middle of March, till about the 10th June, the greatest intensity of heat being from the latter end of April, till the first fall of rain in June;—at this time the thermometrical range, in an ordinary sized house, shut up, but without tats, is very limited, having been observed on many occasions, not to vary 10 degrees, and may be stated at from 96° to 104° Far, from 12 to 4 P.M.;—in larger houses tatted, it ranges from 82° to 90°;—but exposed outside, the thermometer has been observed to rise to 140°.

The rainy season next succeeds, making the third period, and the first fall of rain almost invariably occurs, about the

* Hoar frost is occasionally seen with thin pellicles of ice on small pools, but this may be accounted for, by the effect of evaporation lowering the temperature to the freezing point.

fourth of June, there is generally an interval of some days fair weather, after the first showers, before the monsoon is regularly established, during which the air is close, and extremely unpleasant. The greatest quantity of rain falls in August and September, the average for the year being 40 inches, but in the year 1838, it was less than 22 inches.

The equinoctial periods also, are marked by atmospherical disturbances, such as heavy squalls of wind with rain, and thunder and lightning, preceded generally by distressing sultriness, which often induces languor, restlessness and general *malaise*, with a sensation of great exhaustion, feelings which depend probably upon electrical influences, as they vanish almost immediately upon a changed condition of the atmosphere occurring. Occasional storms happen in almost every month of the year, which may be regarded as contributing to the general salubrity of the climate.

The prevailing winds are north and north-east, and west and south-west, the former blowing during the cold season, and the latter during the hot. The westerly wind sets in, early in the forenoon, and blows several hours during the day with considerable force, constituting what is commonly called the hot land wind, and it certainly is appropriately denominated. It commences generally about the latter part of April, and continues until the rains, during this time however, houses may be kept pleasantly cool by wet tatties, which often reduce the temperature as low as 76°, though, generally not lower than from 80° to 86°.

Officers' houses and gardens. The dwellings of the Officers, are as before stated, thatched bungalows, which are both commodious and comfortable, having glass doors and windows; and the compounds are usually laid out as gardens, the climate during the cold season, being favorable to horticulture. The supply of water from wells is plentiful; and excellent oranges, peaches, figs, limes, lemons, pumplemose, and plantains are produced in great abundance, as also many flowering trees and shrubs;—most of the kitchen garden vegetables such as peas, beans, cabbage, cauliflower, broccoli, spinage.

carrots, parsnips, turnips, celcry, parsley, radishes, asparagus, artichokes, lettuces, beet, potatoes and knolkole; as well as also, all the common bazaar vegetables are to be had.

SINDWARRA.

The station of Sindwarra, which was occupied by a part of the Rajah's auxiliary troops, until that force was reduced in 1830, claims particular notice here, as being a place much resorted to by valetudinarians, and other visitors from Kamptee, during the hot months, or from March till June.

It lies about 70 miles distant, situated on an elevated table land, having an open space of ground free from jungle, on the summit, of about 4½ miles in circumference, exclusive of that part occupied by the village; and it is said to be on an average, 10 degrees cooler than Kamptee.

The climate has been much praised, by those who have taken refuge there from the great heat experienced at Nagpore and Kamptee; as during the hottest part of the season visitors are able to keep their doors open all day. At present there is only one good bungalow at the place, but there are two others, which might be put into repair at a small expense; they are now the property of the Rajah, but are always at the service of any person recommended by the resident.

Supplies are said to be abundant, and the materials for erecting temporary buildings, are close at hand.

The elevation of Sindwarra has been ascertained to be 1000 feet higher than Nagpore, which is 930 above the level of the sea; and about 50 miles further to the north-east, there is another and still more lofty range, the most elevated point of which is said to be upwards of 2000 feet higher, known as the Mahadeo or Puchmaree hills;—they also have been visited by persons from the neighbouring stations, in Bengal, and the climate is said by some, to be the most delightful to be found in almost any part of India.

REMARKS ON THE GENERAL TABLES.

Remarks on the general tables of disease.

As already mentioned, the troops composing this force, European and native are all located at Kamptee, and the tables of disease appended, will shew the nature and amount of sickness and mortality, which have occurred amongst both bodies of men, during the period of ten years, from 1829 to 1838, inclusive.

Amongst the European troops, the total of sick have amounted to 23,092, and the deaths to 337, from an aggregate strength of 9574 men, giving 241, as the annual number of admissions for every 100 men, and 1·632, as the average annual per centage of deaths to sick treated, whilst the per centage of deaths to strength, has been 3·937. The admissions were greatly above the average in 1834, and 1835; and the mortality was considerably increased in 1831, 1833, and 1837, from the greater prevalence and severity, of fever and dysentery, and also of cholera.

It will be seen from the general abstract table No. 2, that a considerable increase of sickness, but more especially of mortality, has taken place during the second half yearly period, which includes the wet and cold seasons; the latter as already mentioned, is most prejudicial to health, and fever and bowel complaints are not only more numerous, but also more severe, and generally more fatal, during this season of the year.

Fevers of the various types, but especially the intermittent, and remittent, dysentery, diarrhœa, hepatitis, rheumatism and syphilis have occasioned the greatest number of admissions, and the mortality has chiefly resulted from the same diseases, and from *cholera and thoracic complaints.* The per centage of admissions from these diseases, to the strength, and of deaths to the sick treated, are given in the table No. 2.

The following extracts from the medical reports by Superintending surgeon Adams, long resident at Kamptee, will

NAGPORE SUBSIDIARY FORCE.

Table No. 1.—Return of sick of the European Troops, exhibiting the half yearly Admissions and Deaths, from the principal diseases, and those which have been either Epidemic or Endemic, during the period of ten years, from 1829 *to* 1838.

Years.			Admissions and deaths.	Apoplexy.	Atrophy.	Beriberi.	Cholera.	Cutaneous diseases.	Delirium Tremens.	Diarrhœa.	Dysentery.	Elephantiasis.	Fever ephemeral.	,, continued.	,, intermittent.	,, remittent.	Guinea Worm.	Hepatic diseases.	Insanity.	Leprosy.	Ophthalmy.	Rheumatism.	Small pox.	Syphilis &c.	Thoracic diseases.	Ulcer phagedenic.	Wounds & injuries.	Other complaints.	Strength each year.	Annual per centage of sick to strength.	Annual per centage of deaths to sick treated.	Annual per centage of deaths to strength.
1829	Admitted.	1st half.	790	0	0	0	3	0	0	23	69	0	0	25	142	37	0	61	1	0	10	65	0	130	30	0	43	151	785	224 ·713	1 ·700	3 ·821
		2d ,,	974	1	0	0	1	0	0	30	89	0	0	27	340	29	0	65	1	0	6	83	0	103	25	0	49	125				
	Died.	1st half.	11	0	0	0	0	0	0	0	4	0	0	0	0	3	0	1	0	0	0	1	0	0	0	0	0	2				
		2d ,,	19	0	0	0	0	0	0	0	5	0	0	0	3	2	0	3	1	0	0	1	0	2	1	0	0	1				
1830	Admitted.	1st half.	860	1	0	0	7	0	0	37	105	0	0	55	111	27	0	58	2	0	8	85	0	124	11	0	60	166	948	202 ·109	1 ·096	2 ·215
		2d ,,	1056	0	0	0	1	0	1	27	81	0	11	21	227	198	0	47	0	0	10	81	0	89	24	0	68	170				
	Died.	1st half.	7	1	0	0	1	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2				
		2d ,,	14	0	0	0	0	0	1	1	4	0	0	0	0	2	0	4	0	0	0	1	0	0	0	0	0	1				
1831	Admitted.	1st half.	057	0	0	0	1	0	0	31	80	0	19	11	140	61	0	70	0	0	8	92	0	98	21	0	76	249	918	255 ·773	1 ·831	4 ·684
		2d ,,	1391	0	0	0	29	0	2	44	183	0	5	13	332	180	0	86	0	0	12	93	0	99	6	0	80	236				
	Died.	1st half.	11	0	0	0	0	0	0	1	2	0	0	0	0	0	0	5	0	0	0	0	0	0	2	0	0	1				
		2d ,,	32	0	0	0	9	0	1	0	10	0	0	0	1	4	0	2	0	0	0	2	0	1	0	0	0	2				
1832	Admitted.	1st half.	896	0	0	0	1	0	11	24	45	0	17	5	103	35	0	51	0	0	7	80	0	77	10	0	110	260	855	230 ·526	1 ·674	3 ·859
		2d ,,	1075	0	0	0	19	0	0	38	66	0	17	5	265	41	0	38	0	0	9	67	0	92	17	0	105	296				
	Died.	1st half.	12	0	0	0	0	0	2	0	3	0	0	0	1	0	0	3	0	0	0	0	0	0	0	0	1	2				
		2d ,,	21	0	0	0	6	0	0	0	1	0	0	1	1	1	0	1	0	0	0	0	0	0	3	0	0	7				
1833	Admitted.	1st half.	1025	2	0	0	23	0	0	31	37	0	28	5	145	16	0	49	0	0	13	72	0	163	12	0	103	323	999	271 ·971	2 ·281	6 ·206
		2d ,,	1692	0	0	0	21	0	0	107	164	0	51	7	469	112	0	60	1	0	8	60	0	268	13	0	98	253				
	Died.	1st half.	18	2	0	0	8	0	0	0	3	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	3				
		2d ,,	44	0	0	0	6	0	0	4	11	0	1	0	6	3	0	2	0	0	0	1	0	1	2	0	0	7				
1834	Admitted.	1st half.	1202	1	0	1	12	0	61	25	40	0	10	3	211	18	0	118	1	0	15	118	0	196	27	0	110	235	1052	324 ·524	1 ·230	3 ·992
		2d ,,	2212	1	0	0	17	0	142	66	108	0	103	0	1078	21	0	96	4	0	8	105	0	143	37	0	101	179				
	Died.	1st half.	13	0	0	0	0	0	1	1	2	0	0	0	1	3	0	1	0	0	0	1	0	1	0	0	0	2				
		2d ,,	29	0	0	0	2	0	0	4	4	0	0	0	8	1	0	3	0	0	0	1	0	2	0	0	0	4				
1835	Admitted.	1st half.	1338	0	0	0	2	1	127	42	17	0	39	11	445	15	0	55	5	0	7	108	0	103	37	0	110	214	969	304 ·024	0 ·916	2 ·786
		2d ,,	1608	0	0	0	2	5	215	44	59	0	72	2	398	33	0	58	0	0	8	159	0	152	41	0	114	246				
	Died.	1st half.	10	0	0	0	0	0	1	1	3	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	4				
		2d ,,	17	0	0	0	0	0	0	0	1	0	0	0	2	5	0	1	0	0	0	3	0	0	2	0	0	3				
1836	Admitted.	1st half.	1218	1	0	0	0	2	140	10	16	0	47	1	189	33	0	47	1	0	12	113	0	159	36	0	137	274	1001	227 ·772	1 ·535	3 ·496
		2d ,,	1062	0	0	0	2	9	72	40	62	0	32	0	231	36	0	52	1	0	19	79	0	119	18	0	98	192				
	Died.	1st half.	14	1	0	0	0	0	1	1	0	0	0	0	2	4	0	1	0	0	0	0	0	0	0	0	1	3				
		2d ,,	21	0	0	0	1	0	0	0	7	0	0	0	1	3	0	1	0	0	0	2	0	0	1	0	1	4				
1837	Admitted.	1st half.	895	8	0	0	1	3	77	18	24	0	28	4	116	16	0	49	0	0	10	66	9	127	13	0	102	233	1021	196 ·757	2 ·481	4 ·882
		2d ,,	1120	1	2	0	7	3	65	56	79	0	39	4	216	31	0	49	4	0	25	66	0	131	28	0	87	224				
	Died.	1st half.	25	8	0	0	0	0	1	0	1	0	0	0	2	3	0	5	0	0	1	1	0	0	0	0	1	2				
		2d ,,	25	0	0	0	4	0	0	3	5	0	0	0	2	2	0	0	0	0	1	2	0	1	1	0	0	4				
1838	Admitted.	1st half.	938	2	0	0	1	3	33	16	31	0	33	69	116	5	0	49	0	0	3	61	0	144	80	0	77	215	1023	168 ·230	1 ·975	3 ·323
		2d ,,	783	1	4	0	3	7	17	30	58	0	31	36	134	3	0	34	0	0	7	66	0	132	21	0	63	136				
	Died.	1st half.	19	1	0	0	0	0	0	1	5	0	0	2	1	2	0	2	0	0	0	0	0	0	3	0	1	1				
		2d ,,	15	1	0	0	2	0	0	0	4	0	0	1	3	0	0	0	0	0	0	1	0	3	0	0	0	0				

NAGPORE SUBSIDIARY FORCE

Table No. 2.—Europeans—Abstract of the preceding Returns, shewing the total number of admissions and Deaths &c. from 1829 to 1838.

Diseases.

Aggregate strength. 9,574.	Admissions and deaths.	Apoplexy.	Atrophy.	Beriberi.	Cholera.	Cutaneous diseases.	Delirium Tremens.	Diarrhœa.	Dysentery.	Elephantiasis.	Fever ephemeral.	,, continued.	,, intermittent.
1829 to 1838. Admitted. 1st half.	10,119	15	0	1	51	9	449	260	464	0	221	189	1778
1829 to 1838. Admitted. 2d ,,	12,973	4	6	0	102	24	514	482	949	0	361	115	3690
Total..	23,092	19	6	1	153	33	963	742	1413	0	582	304	5468
1829 to 1838. Died. 1st half.	140	13	0	0	9	0	6	5	24	0	0	3	7
1829 to 1838. Died. 2d ,,	237	1	0	0	30	0	2	12	52	0	1	2	27
Total..	377	14	0	0	39	0	8	17	76	0	1	5	34
Average per centage of sick to strength.	241·194	0·198	0.062	0.010	1·598	0·344	10·058	7·750	14·758	0	6·078	3·175	57·113
Do. of deaths to sick treated.	1·632	73·684	0	0	25·490	0	0·830	2·291	5·378	0	0·171	1·644	0·621
Do. per centage of deaths to strength.	3·937	0·146	0	0	0·407	0	0·083	0·177	0·793	0	0·010	0·052	0·355

Aggregate strength. 9,574.	,, remittent.	Guinea Worm.	Hepatic diseases.	Insanity.	Leprosy.	Ophthalmy.	Rheumatism.	Small pox.	Syphilis &c.	Thoracic diseases.	Ulcer phagedenic.	Wounds & injuries.	Other Complaints.
1829 to 1838. Admitted. 1st half.	263	0	607	10	0	93	860	0	1321	280	0	928	2320
1829 to 1838. Admitted. 2d ,,	687	0	585	11	0	112	859	0	1319	230	0	866	2057
Total..	950	0	1192	21	0	205	1719	0	2640	510	0	1794	4377
1829 to 1838. Died. 1st half.	18	0	18	0	0	1	3	0	1	6	0	4	22
1829 to 1838. Died. 2d ,,	23	0	17	1	0	1	14	0	10	10	0	1	33
Total..	41	0	35	1	0	2	17	0	11	16	0	5	55
Average per centage of sick to strength.	9·922	0	12·450	0·219	0	2·141	17·954	0	27·574	5·326	0	18·738	45·717
Do. of deaths to sick treated.	4·315	0	2·936	4·761	0	0·975	0·988	0	0·416	3.137	0	0·278	1·256
Do. per centage of deaths to strength.	0·428	0	0·365	0·010	0	0.020	0·177	0	0·114	0·167	0	0·052	0·574

NAGPORE SUBSIDIARY FORCE.

Table No. 3.—Return of sick of the Native Troops, exhibiting the half yearly Admissions and Deaths, from the principal diseases, and those which have been either Epidemic or Endemic, during the period of ten years, from 1829 to 1838.

Years.			Diseases.																													
			Admissions and Deaths.	Apoplexy.	Atrophy.	Beriberi.	Cholera.	Cutaneous diseases.	Delirium Tremens.	Diarrhœa.	Dysentery.	Elephantiasis.	Fever ephemeral.	" continued.	" intermittent.	" remittent.	Guinea Worm.	Hepatic diseases.	Insanity.	Leprosy.	Ophthalmy.	Rheumatism.	Small pox.	Syphilis &c.	Thoracic diseases.	Ulcer phagedenic.	Wounds & injuries.	Other complaints.	Strength each year.	Annual per centage of sick to strength.	Annual per centage of deaths to sick treated.	Annual per centage of deaths to strength.
1829	Admitted.	1st half.	1238	0	0	0	0	0	0	22	7	0	0	26	429	64	0	3	1	0	8	121	0	63	6	0	128	360	5828	46 ·585	1 ·731	0 ·806
		2d "	1477	0	0	5	9	0	0	37	6	0	0	79	582	23	0	0	2	0	31	181	1	54	4	0	164	299				
	Died.	1st half.	17	0	0	0	0	0	0	1	0	0	0	1	7	3	0	0	0	0	0	1	0	0	1	0	2	1				
		2d "	30	0	0	2	4	0	0	1	1	0	0	0	9	0	0	0	0	0	0	1	1	1	4	0	2	4				
1830	Admitted.	1st half.	1334	0	0	0	0	0	0	22	5	0	0	3	583	4	0	2	5	0	32	115	5	53	3	0	93	409	5364	49 ·906	1 ·606	0 ·801
		2d "	1343	1	0	0	0	0	0	27	6	0	3	1	680	13	0	4	1	0	20	110	3	30	2	0	131	311				
	Died.	1st half.	13	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	3	1	0	1	0	0	3				
		2d "	30	1	0	0	0	0	0	0	0	0	0	1	6	0	0	2	0	0	0	5	3	0	1	0	1	10				
1831	Admitted.	1st half.	1156	1	0	0	2	0	0	23	4	0	43	19	312	21	0	1	1	0	19	100	5	44	4	0	147	410	4952	57 ·209	2 ·576	1 .474
		2d "	1677	0	0	13	24	0	0	33	19	0	25	10	1009	46	0	0	5	0	28	101	2	32	4	0	75	245				
	Died.	1st half.	20	1	0	0	1	0	0	1	0	0	0	2	4	2	0	0	0	0	0	2	2	2	1	0	0	2				
		2d "	53	0	0	5	13	0	0	0	3	0	0	1	12	0	0	0	0	0	0	3	1	0	4	0	0	11				
1832	Admitted.	1st half.	1143	0	0	1	5	0	0	10	3	0	71	0	532	9	0	0	2	0	13	113	0	34	20	0	80	250	5066	56 ·632	2 ·544	1 ·440
		2d "	1726	0	0	15	18	0	0	50	17	0	78	0	1014	3	0	1	3	0	11	96	0	22	1	0	78	319				
	Died.	1st half.	23	0	0	1	3	0	0	0	2	0	0	0	2	0	0	0	0	0	0	3	0	0	5	0	1	6				
		2d "	50	0	0	4	13	0	0	1	2	0	0	0	8	1	0	0	0	0	0	7	0	1	1	0	0	12				
1833	Admitted.	1st half.	1193	1	1	8	13	0	0	35	10	0	9	0	425	7	0	5	0	0	25	96	0	59	4	0	105	390	4604	67 ·702	2 ·630	1 ·781
		2d "	1924	1	2	3	39	0	0	15	28	0	30	1	1185	7	0	3	0	0	16	115	0	59	4	0	84	302				
	Died.	1st half.	30	1	0	1	7	0	0	3	0	0	0	0	11	2	0	0	0	0	0	2	0	0	0	0	0	3				
		2d "	52	1	1	1	25	0	0	0	0	0	0	1	12	1	0	0	0	0	0	4	0	2	2	0	1	1				
1834	Admitted.	1st half.	1013	0	1	0	1	15	0	12	3	0	47	2	373	8	0	4	0	0	20	115	11	45	13	0	96	247	4636	97 ·778	1 ·323	1 ·294
		2d "	3520	1	6	12	0	14	1	28	31	0	445	0	2368	3	0	5	0	0	9	159	1	25	16	0	92	301				
	Died.	1st half.	20	0	1	0	0	0	0	1	0	0	0	0	6	0	0	1	0	0	0	3	1	2	2	0	0	3				
		2d "	40	0	0	3	0	0	0	4	2	0	0	0	12	0	0	0	0	0	0	5	0	0	5	0	1	8				
1835	Admitted.	1st half.	1905	1	6	2	0	55	0	30	8	0	126	14	1029	64	11	3	1	0	9	138	0	22	10	0	144	292	4542	84 ·610	1 ·821	1 ·541
		2d "	1878	0	3	0	3	51	0	21	20	0	83	6	1094	45	3	3	2	0	21	137	0	33	7	0	116	230				
	Died.	1st half.	38	0	0	0	0	0	0	2	3	0	0	3	16	0	0	0	0	0	0	2	0	0	3	0	0	9				
		2d "	32	0	2	0	1	0	0	1	2	0	0	0	15	3	0	0	0	0	0	2	0	0	1	0	0	5				
1836	Admitted.	1st half.	1280	0	3	2	0	29	1	8	4	0	66	7	552	56	1	1	4	0	11	111	0	28	17	0	98	281	4631	59 ·425	2 .107	1 ·252
		2d "	1472	1	1	1	0	22	0	17	11	0	90	7	709	71	3	2	1	0	10	141	0	24	20	0	89	252				
	Died.	1st half.	30	0	1	1	0	0	0	1	2	0	0	2	13	2	0	0	0	0	0	2	0	1	0	0	0	5				
		2d "	28	0	0	1	0	0	0	0	2	0	0	2	8	1	0	0	0	0	0	1	0	0	7	0	0	6				
1837	Admitted.	1st half.	1080	0	1	2	0	35	2	10	5	0	85	13	390	41	2	0	1	0	19	108	0	26	10	0	99	231	4491	57 ·801	2 ·349	1 ·358
		2d "	1516	0	6	7	31	21	0	19	17	0	94	12	666	50	0	0	3	0	58	139	1	25	29	0	113	225				
	Died.	1st half.	16	0	1	0	0	0	0	1	0	0	2	1	5	1	0	0	0	0	0	1	0	0	1	0	0	3				
		2d "	45	0	0	1	18	0	0	0	4	0	0	2	7	4	0	0	0	0	0	1	0	0	1	0	2	5				
1838	Admitted.	1st half.	1597	0	5	2	2	29	1	60	18	0	305	25	456	106	6	0	5	0	12	137	15	39	35	0	112	227	5199	54 ·433	1 ·837	1 ·000
		2d "	1233	0	4	2	1	24	0	27	11	0	240	5	422	82	1	0	1	0	22	78	0	26	14	0	100	173				
	Died.	1st half.	34	0	1	1	1	0	0	0	1	0	0	2	11	3	0	0	0	0	0	3	2	0	3	0	1	5				
		2d "	18	0	1	1	1	0	0	1	1	0	0	0	2	3	0	0	0	0	0	2	0	0	1	0	0	5				

NAGPORE SUBSIDIARY FORCE.

Table No. 4.—Natives—Abstract of the preceding Returns, shewing the Total number of Admissions and Deaths, &c. from 1829 to 1838.

		Diseases.																									
		Admissions and deaths.	Apoplexy.	Atrophy.	Beriberi.	Cholera.	Cutaneous diseases.	Delirium Tremens.	Diarrhœa.	Dysentery.	Elephantiasis.	Fever ephemeral.	,, continued.	,, intermittent.	,, remittent.	Guinea Worm.	Hepatic diseases.	Insanity.	Leprosy.	Ophthalmy.	Rheumatism.	Small pox.	Syphilis &c.	Thoracic diseases.	Ulcer phagedenic.	Wounds & injuries.	Other Complaints.
Aggregate strength. 49,313																											
1829 to 1838. Admitted.	1st half.	12999	3	17	17	23	163	4	232	67	0	752	109	5081	380	20	19	20	0	168	1154	36	413	122	0	1102	3097
	2d ,,	17766	4	22	58	125	132	1	304	166	0	1088	127	9729	343	7	18	1[illegible]	0	226	1257	8	330	101	0	1042	2660
	Total..	30765	7	39	75	148	295	5	536	233	0	1840	236	14810	723	27	37	38	0	394	2411	44	743	223	0	2144	5·757
Died......	1st half.	241	2	4	4	12	0	0	10	8	0	2	11	80	13	0	1	0	0	0	22	6	5	17	0	4	40
	2d ,,	378	2	4	18	75	0	0	8	17	0	0	7	91	13	0	2	0	0	0	31	5	4	27	0	7	67
	Total..	619	4	8	22	87	0	0	18	25	0	2	18	171	26	0	3	0	0	0	53	11	9	44	0	11	107
Average per centage of sick to strength.		62 ·387	0·014	0·079	0·152	0·300	0·598	0·010	1·086	0·472	0	3·731	0·478	30·032	1·466	0·054	0·075	0·077	0	0·798	4·889	0·089	1·506	0·452	0	4·347	11·674
Do. of deaths to sick treated.		2 ·012	57·142	20·512	29·333	58·783	0	0	3·358	10·729	0	0·108	7·627	1·154	3·596	0	8·108	0	0	0	2·198	25·0	1·211	19·730	0	0·513	1·858
Do. per centage of deaths to strength.		1 ·255	0·008	0·016	0·044	0·176	0	0	0·036	0·050	0	0·004	0·036	0·346	0·052	0	0·006	0	0	0	0·107	0·022	0·018	0·089	0	0·022	0·216

NAGPORE SUBSIDIARY FORCE.

No. 5.—*Table exhibiting the number of Admissions and Deaths from each class of Disease, for 5 years.*

EUROPEAN TROOPS.

CLASSES.	DISEASES.	From 1834 to 1838. Aggregate strength 5070. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Admissions and deaths from each class of disease. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Total admissions from each class.	Total deaths from each class.	Average per centage of sick to strength.	Average per centage of deaths to sick.
Fevers......	Febris ephemera	157	0	277	0	1409	21	2503	28	3912	49	77 ·159	1 ·252
	,, intermit. quot.	787	5	1539	13								
	,, tertiana......	290	1	518	3								
	,, remittens......	87	13	127	11								
	,, continua......	88	2	42	1								
	Cholera	16	0	31	9	16	0	31	9	47	9	0 ·927	19 ·148
Diseases of the Abdominal viscera......	Dysenteria acuta	107	11	317	20	128	11	366	21	491	32	9 ·743	6 ·477
	,, chronica......	21	0	49	1								
	Diarrhœa.......	111	4	236	7	423	6	509	12	932	18	18 ·382	1 ·931
	Colica.........	23	0	38	0								
	Obstipatio......	38	0	26	0								
	Hæmorrhois....	42	0	60	0								
	Enteritis........	9	0	11	2								
	Peritonitis......	3	0	3	0								
	Gastritis........	18	0	10	0								
	Dyspepsia......	169	2	125	3								
	Hepatitis acuta.	187	6	214	5	318	10	289	5	607	15	11 ·972	2 ·471
	,, chronica......	131	4	75	0								
Diseases of the Lungs and Heart	Catarrhus	136	1	86	2	183	3	135	4	318	7	6 ·272	2 ·201
	Asthma........	5	0	3	0								
	Phthisis pulmonalis.........	3	0	2	0								
	Hæmoptysis.....	2	0	1	0								
	Pleuritis........	0	0	0	0								
	Pneumonia......	26	0	30	1								
	Carditis	0	0	1	0								
	Palpitatio	2	0	1	0								
	Dyspnœa.......	0	2	11	1								
Diseases of the Brain.	Apoplexia......	12	10	3	1	665	16	691	5	1359	21	26 ·804	1 ·545
	Epilepsia.......	18	0	27	0								
	Paralysis.......	5	0	9	1								
	Cephalalgia	176	1	135	3								
	Phrenitis.......	8	0	0	0								
	Ictus solis......	0	0	0	0								
	Amentia........	0	0	1	0								
	Mania..........	7	0	8	0								
	Hydrophobia...	1	1	0	0								
	Delirium Tremens.........	73	3	57	0								
	Ebrietas.........	365	1	451	0								
Diseases of the Eye..	Morbi oculorum..........	47	1	67	1	47	1	67	1	114	2	2 ·248	1 ·754
Do. ,, Skin	,, cutis.......	9	0	24	0	9	0	21	0	33	0	0 ·650	0
Eruptive Fevers......	Variola.........	0	0	0	0	7	0	11	0	18	0	0 ·355	0
	Varicella........	0	0	0	0								
	Rubeola........	3	0	4	0								
	Scarlatina	0	0	0	0								
	Erysipelas.......	4	0	7	0								
Dropsies....	Anasarca.......	12	0	13	1	10	1	21	2	43	3	0 ·848	6 ·976
	Ascites.........	5	1	11	1								
	Hydrothorax....	2	0	0	0								
Rheumatic affections.	Rheumatismus acutus........	247	0	301	3	470	2	481	9	951	11	18 ·757	1 ·156
	,, chronicus....	219	2	171	6								
	Neuralgia......	0	0	0	0								
	Odontalgia......	4	0	5	0								
Venereal affections..	Syphilis primitiva..........	302	0	267	2	753	1	667	6	1420	7	28 ·007	0 ·492
	,, consecutiva...	17	0	23	1								
	Gonorrhœa.....	329	0	281	1								
	Hernia humoralis..........	73	1	89	2								
	Strictura urethræ.........	39	0	7	0								
Specific diseases.....	Atrophia........	0	0	6	0	10	0	16	0	26	0	0 ·512	0
	Beriberi.........	2	0	0	0								
	Elephantiasis...	0	0	0	0								
	Lepra..	0	0	0	0								
	Dracunculus....	0	0	0	0								
	Ulcus phagedenicum........	0	0	1	0								
	Scrophula......	8	0	8	0								
	Scorbutus......	0	0	1	0								
Punishment.	Punitus........	100	1	115	0	100	1	115	0	215	1	4 ·240	0 ·465
Wounds and injuries...	Fractura........	27	1	16	0	536	3	446	1	982	4	19 ·368	0 ·407
	Luxatio.........	18	0	8	0								
	Subluxatio......	76	0	56	0								
	Vulnus sclopitorum........	9	0	5	1								
	,, incisum......	68	0	46	0								
	Contusio	133	1	300	0								
	Ambustio......	5	1	15	0								
Other diseases, including Phlogosis, Ulcus, &c.............		498	5	407	4	498	5	407	4	*905	+9	17 ·850	0 ·994
	Total.......	5591	81	6785	107	5591	81	6785	107	12376	188	244 ·102	1 ·519

Average per centage of deaths to strength during these five years, has been 3·708.

* Of this number were

Phlogosis..............	176	2
Do. Do. Ulcus.........	218	1
Do. Do. Bubo simplex.	226	0
Total.......	650	3

+ The deaths under this head, include besides those accounted for in the preceding note, two from melancholia, two from anæmia, and two from splenitis, under which latter head the admissions have amounted to 148.

NAGPORE SUBSIDIAY FORCE.

No. 6.—*Table exhibiting the number of Admissions and Deaths from each class of Disease, for 5 years.*

NATIVE TROOPS.

CLASSES.	DISEASES.	From 1834 to 1838. Aggregate strength 23.498 1st Half. Ad.	1st Half. Dd.	2d. Half. Ad.	2d. Half. Dd.	Admissions and deaths from each class of disease. 1st Half. Ad.	1st Half. Dd.	2d. Half. Ad.	2d. Half. Dd.	Totaladmissions from each class.	Total deaths from each class.	Average per centage of sick to strength.	Average per centage of deaths to sick.
Fevers......	Febrisephemera	627	2	952	0								
	,, intermit.quot.	2560	48	4612	41								
	,, tertiana	240	3	647	3	3763	67	6492	59	10255	126	43 ·642	1 ·228
	,, remittens......	275	6	251	11								
	,, continua......	61	8	30	4								
	Cholera........	3	1	35	20	3	1	35	20	38	21	0 ·161	55 ·263
Diseases of the Abdominal viscera......	Dysenteriaacuta	32	4	79	9								
	,, chronica......	6	2	11	2	38	6	90	11	128	17	0 ·544	13 ·281
	Diarrhœa.......	120	5	112	6								
	Colica........	23	2	17	2								
	Obstipatio......	47	1	89	1								
	Hœmorrhois....	20	0	11	0								
	Enteritis........	3	2	0	0	314	16	401	16	715	32	3 ·042	4 ·475
	Peritonitis.....	0	0	0	0								
	Gastritis........	3	1	2	1								
	Dyspepsia......	98	5	170	6								
	Hepatitis acuta.	7	1	6	0								
	,, chronica......	1	0	4	0	8	1	10	0	18	1	0 ·076	5 ·55
Diseases of the Lungs and Heart	Catarrhus......	60	4	41	2								
	Asthma	5	2	6	2								
	Phthisis pulmonalis.........	4	2	11	6								
	Hœmoptysis....	0	0	0	0								
	Pleuritis.......	0	0	0	0	85	11	86	14	171	25	0 ·727	14 ·61[illegible]
	Pneumonia.....	3	0	15	3								
	Carditis.........	1	0	0	0								
	Palpitatio	2	1	1	0								
	Dyspnœa.......	10	2	12	1								
Diseases of the Brain.	Apoplexia......	1	0	2	0								
	Epilepsia.......	4	0	2	0								
	Paralysis.......	6	2	6	1								
	Cephalalgia	22	0	21	0								
	Phrenitis.......	3	0	0	0								
	Ictus solis......	0	0	0	0								
	Amentia.......	5	0	2	0	51	2	41	2	92	4	0 ·391	4 ·347
	Mania..........	6	0	4	0								
	Hydrophobia ..	0	0	1	1								
	Delirium Tremens.........	4	0	3	0								
	Ebrictas........	0	0	0	0								
Diseases of the Eye..	Morbi oculorum	71	0	110	0	71	0	110	0	181	0	0 ·770	0
Do. Skin.	,, cutis......	163	0	136	0	163	0	136	0	299	0	1 ·272	0
Eruptive fevers......	Variola.........	26	3	2	0								
	Varicella.......	171	0	19	0								
	Rubeola.........	32	0	12	0	233	3	34	0	267	3	1 ·136	1 ·123
	Scarlatina......	0	0	0	0								
	Erysipelas......	4	0	1	0								
Dropsies....	Anasarca........	22	6	34	9								
	Ascites.........	1	0	3	0	23	6	37	9	60	15	0 ·255	25 0
	Hydrothorax...	0	0	0	0								
Rheumatic affections.	Rheumat acutus	392	7	422	7								
	,, chronicus	217	5	232	4	622	12	662	11	1284	23	5 ·464	1 ·791
	Neuralgia.......	0	0	0	0								
	Odontalgia.....	13	0	8	0								
Venereal affections..	Syphilis primitiva..........	54	1	45	0								
	,, consecutiva	15	1	5	0								
	Gonorrhœa.....	51	1	43	0								
	Hernia humoralis............	35	0	38	0	160	3	133	0	293	3	1 ·246	1 ·023
	Strictura urethræ..........	5	0	2	0								
Specific diseases.....	Atrophia.......	16	4	20	3								
	Beriberi........	0	0	22	6								
	Elephantiasis...	0	0	0	0								
	Lepra..........	0	0	0	0								
	Dracunculus....	20	0	7	0	45	4	55	11	100	15	0 ·425	15 0
	Ulcus phagedenicum........	0	0	0	0								
	Scrophula......	9	0	6	2								
	Scorbutus......	0	0	0	0								
Punishment	Punitus.........	24	0	7	0	24	0	7	0	31	0	0 ·131	0
Wounds and injuries ..	Fractura........	9	0	7	0								
	Luxatio	5	0	5	0								
	Subluxatio	26	0	26	1								
	Vulnus sclopitorum..........	12	0	0	0	549	1	510	3	1059	4	4 ·506	0 ·377
	,, incisum......	67	0	96	0								
	Contusio.......	406	1	329	2								
	Ambustio.......	24	0	47	0								
Other diseases, including Phlogosis, Ulcus, &c............		783	5	780	7	783	5	780	7	*1563	+12	6 ·651	0 ·767
	Total....	6935	138	9619	163	6935	138	9619	163	16554	301	70 ·448	1 ·818

Average per centage of deaths to strength during these five years, has been 1·280.

* Of this number were

Phlogosis............	833	4
Do. Do. Ulcus.......	503	0
Do. Do. Buho simplex.	108	0
Total......	1444	4

+ The deaths under this head, include, besides those accounted for in the preceding note, two from splenitis, one from diabetes, one from icterus, one from tetanus, one from tympanitis, and one from varix; the remaining one is not particularized.

NAGPORE SUBSIDIARY FORCE.

No. 7.—*Table exhibiting the admissions and deaths from the most particular diseases, amongst the European and Native Troops, at Nagpore, during the ten years, from 1829 to 1838 inclusive, with the proportion each bears to the total number of Admissions and Deaths.*

	Cholera.		Fever.		Dysentery.		Hepatitis.		Diarrhœa.		Thoracic diseases.		Rheumatism.		Syphilis.		Total from these compts.	
	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.
Europeans.																		
Total Admissions....23,092	153	1/151	7304	1/3	1413	1/16	1192	1/19	742	1/31	510	1/45	1719	1/13	2640	1/9	15673	2/3
.. Deaths.......... 377	39	1/10	81	2/9	76	1/5	35	2/21	17	1/22	16	2/47	17	1/22	11	1/34	292	4/5
Natives.																		
Total Admissions....30,765	148	1/205	17609	4/7	233	1/132	37	1/831	536	1/57	223	1/138	2411	1/13	743	1/41	21940	2/3
.. Deaths..........619	87	1/7	217	1/3	25	1/25	3	1/206	18	1/34	44	1/14	53	1/11	9	1/69	456	3/4

No. 8.—*The following Table shews the per centage of admissions from the same diseases to the strength, of deaths to sick treated, and of deaths to the strength; it also exhibits the difference in these respects, amongst the European and Native sick.*

	Cholera.		Fever.		Dysentery.		Hepatitis.		Diarrhœa.		Thoracic diseases.		Rheumatism.		Syphilis.		Total from these diseases.		Grand total.	
	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.
European Troops. STRENGTH, 9,574.																				
Per centage of sick to strength	153	1·598	7304	76·289	1413	14·758	1192	12·450	742	7·750	510	5·326	1719	17·954	2640	27·574	15673	163·703	23092	241·194
.. of deaths to sick treated.	39	25·490	81	1·109	76	5·378	35	2·935	17	2·291	16	3·137	17	0·988	11	0·416	292	1·863	377	1·632
.. of deaths to strength...	39	0·407	81	0·846	76	0·793	35	0·365	17	0·177	16	0·167	17	0·177	11	0·114	292	3·049	377	3·937
Native Troops. STRENGTH, 49,313.																				
Per centage of sick to strength	148	0·300	17609	35·708	233	0·472	37	0·075	536	1·086	223	0·452	2411	4·889	743	1·506	21940	44·491	30765	62·387
.. of deaths to sick treated.	87	58·783	217	1·232	25	10·729	3	8·108	18	3·358	44	19·730	53	2·198	9	1·211	456	2·078	619	2·012
.. of deaths to strength...	87	0·176	217	0·440	25	0·050	3	0·006	18	0·036	44	0·089	53	0·107	9	0·018	456	0·924	619	1·255

NAGPORE SUBSIDIARY FORCE.

No. 9.—*Table shewing the amount of Admissions and Deaths from the principal classes of disease for the period of five years, from* 1834 *to* 1838 *inclusive, with the proportion of Admissions from each to the total of sick treated, and of deaths to the total mortality.*

	Fevers.		Cholera.		Dysentery.		Abdominal complaints.		Diseases of the Liver.		Diseases of the Lungs.		Diseases of the Brain.		Dropsies.		Rheumatic affections.		Venereal complaints.	
	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.
European Troops.																				
Total Admissions.... 12,376	3912	$\frac{1}{3}$	47	$\frac{1}{263}$	494	$\frac{1}{25}$	932	$\frac{1}{13}$	607	$\frac{1}{20}$	318	$\frac{1}{39}$	1359	$\frac{1}{9}$	43	$\frac{1}{288}$	951	$\frac{1}{13}$	1420	$\frac{2}{17}$
„ Deaths........ 188	49	$\frac{1}{4}$	9	$\frac{1}{21}$	32	$\frac{1}{6}$	18	$\frac{2}{21}$	15	$\frac{2}{25}$	7	$\frac{1}{27}$	21	$\frac{1}{9}$	3	$\frac{1}{63}$	11	$\frac{1}{17}$	7	$\frac{1}{27}$
Native Troops.																				
Total Admissions ...16,554	10,255	$\frac{2}{3}$	38	$\frac{1}{435}$	128	$\frac{1}{129}$	715	$\frac{1}{23}$	18	$\frac{1}{920}$	171	$\frac{1}{97}$	92	$\frac{1}{180}$	60	$\frac{1}{276}$	1284	$\frac{1}{13}$	293	$\frac{2}{113}$
„ Deaths........ 301	126	$\frac{2}{5}$	21	$\frac{1}{14}$	17	$\frac{4}{71}$	32	$\frac{2}{19}$	1	$\frac{1}{301}$	25	$\frac{1}{12}$	4	$\frac{1}{75}$	15	$\frac{1}{20}$	23	$\frac{1}{13}$	3	$\frac{1}{100}$

No. 10.—*Table exhibiting the per centage of Admissions from the same classes of disease to the strength, of deaths to sick treated, and of deaths to strength, both amongst European and Native troops.*

	Fevers.		Cholera.		Dysentery.		Abdominal complaints.		Diseases of the Liver.		Diseases of the Lungs.		Diseases of the Brain.		Dropsies.		Rheumatic affections.		Venereal complaints.	
	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.
European Troops. STRENGTH, 5070.																				
Per centage of sick to strength	3912	77·159	47	0·927	494	9·743	932	18·382	607	11·972	318	6·272	1359	26·804	43	0·848	951	18·757	1420	28·007
„ of deaths to sick.....	49	1·252	9	19.148	32	6·477	18	1·931	15	2·471	7	2·201	21	1·545	3	6·976	11	1·156	7	0·492
„ of deaths to strength..	49	0·966	9	0.177	32	0·631	18	0·355	15	0·295	7	0·138	21	0·414	3	0·059	11	0·216	7	0·138
Native Troops. STRENGTH, 23,498.																				
Per centage of sick to strength	10255	43·642	38	0.161	128	0·544	715	3·042	18	0·076	171	0·727	92	0·391	60	0·255	1284	5·464	293	1·246
„ of deaths to sick.....	126	1·228	21	55·263	17	13·281	32	4·475	1	5·555	25	14·619	4	4·347	15	25·000	23	1·791	3	1·023
„ of deaths to strength..	126	0·536	21	0·089	17	0·072	32	0·136	1	0·004	25	0·106	4	0·017	15	0·063	23	0·097	3	0·012

shew the deadly nature of fever in some seasons, at that station, and point out the treatment best adapted for it.

" Adverting to the general plan of treatment pursued in the several hospitals under this superintendence, I have nothing very important to offer for the consideration of the Board, I may observe that Surgeon Anderson of the M. E. regiment, inclines more to the practice of blood letting in fevers, than any of his predecessors, and I am myself an advocate for that mode of treatment, which if adopted at all,should be early, and repeated according to symptoms, and the constitution of the patient. I think after a copious bleeding, which may be followed up by leeches when necessary, a good dose of calomel joined with opium, say ten to twenty grains of the former, and at least two of the latter, by determining freely to the skin, as well as clearing out the bowels, in a mild but effectual manner,tends more to induce a perfect intermission, than any thing I know. Bark or quinine of course, to be resorted to as soon as admissible."

" In relapse cases of fever however, which are by far the most numerous, we have to deal with, I am of opinion that general bleeding is not advisable, and would even employ leeches as sparingly as possible, on such occasions."—*Dated 31st December*,1835.

" Remittent fever became exceedingly prevalent in the months of May and June, attacking chiefly the new comers to the station, such as officers in the prime of life; the European soldiers were also sufferers to a considerable extent from the same disease, though proportionally less than the officers."

" Apoplectic attacks were frequent among the soldiers, and one or two cases were brought in moribund, or died on the way from the barracks to the hospital, there being eight deaths from apoplexy, which greatly swells the list of European casualties."

" In some of the apoplectic cases, the most prompt and efficient bleeding from the arm, failed in saving the patient

whilst others were past recovery before assistance could reach them."

"In fever the most successful plan of treatment seemed to be early vascular depletion, general or local, or both according to the symptoms and condition of the patient and when from any circumstances this was not at once practised, and repeated when necessary, the result was too often fatal in spite of every exertion."

"Next to depletion full doses of calomel and opium, (calom. grxx, opii grii) given at night and followed by some mild purgative in the morning, were very beneficial—The anodyne and diaphoretic effects of the calomel and opium, were tranquillizing through the night, and prepared the bowels to be favorably acted upon by the aperient, which if the stomach would bear it, was the common purging mixture of senna and salts, and afterwards the mixture recommended by Sir A. Cooper, leaving out the tinct: opii; viz. mist: ammon: acetat: ℥vi, magnes: sulph: ℥i, given in doses of ℥iss, with a little water, every two or three hours, till sufficient effect was obtained; or a mixture composed of pulv: rhei ʒss, or ℈ii, magnes: sulph: ℥ss, aq: ℥vi, tinct cardam: ʒiii, which was given in doses of ℥iss or ℥ii and repeated according to circumstances. Sometimes a dose of rhubarb and magnesia, made into a draught, with the addition of spt. æther: nitrici ʒss would be retained, and act favorably when the stomach rejected every thing else.—Besides the night dose of calomel and opium, the same medicines in smaller doses, were given at proper intervals during the day, taking care to relieve symptoms of irritation, whenever they arose by timely local depletion; in some cases, Dovers powder was advantageously substituted for the pure opium, and vice versa."

"Quinine, after mercurials and aperients had taken due effect, was generally found safe and highly serviceable, also blisters to the back of the neck, or other parts, according to indications, and frequent sponging of the surface; cold lotions to the shaved head, gave much relief."

"In protracted convalescence from debility, with a relaxed and irritated state of bowels, and night sweats, the nitric acid, with some light bitter infusion answered well."

"The lamentable mortality among the European officers of the force, has had no parallel since this cantonment was first occupied by Madras troops, from December 1824, to the present time; the number of commissioned officers being 109, and the deaths 7, and four have proceeded on sick certificate, either to England or the coast."

"In the treatment of fevers, whether in Europeans or natives, there is one precaution which I think should be attended to, viz. when pain or irritability of stomach is present, the use of emetics, especially tartarized antimony, even in the smallest quantity, should be avoided, leeches to the pained part being in such cases necessary."—*Dated 30th June*, 1837.

Superintending surgeon Stevenson remarks thus

"The officers of the force, have enjoyed a striking immunity from disease this season. The fevers appeared to put on two distinct forms, the one characterized by high vascular action, intense heat of surface, acute headache, and in some cases, irritability of stomach; the other was chiefly of an asthenic nature, marked by stupor, small, frequent, contracted pulse, heat not much above the natural standard; the disease in this form ran its course very gradually, much resembling typhus. The men of the B. Troop horse brigade, were the principal subjects of the first class, being robust young men, who were rendered more liable to be attacked with fever, from exposure on the long march they had to this station, at rather an advanced part of the season; and on arrival here, they had to encounter the hot weather, which was of great intensity. They were also attacked with influenza, but although it was accompanied with febrile symptoms for some days, it was a mild disease. In these cases, bleeding, both general and local, was imperatively required, with large doses of calomel and active purgation."

"The men of the 3d Battalion artillery and Madras European regiment, mostly exhibited the low continued form of

the disease, in them, general bleeding was very rarely had recourse to, but determinations to particular organs, such as the head, stomach, or liver, were treated by active leeching and blisters, cold lotions to the head, and leeches and blisters to the nape of the neck, were found of great use when that organ was much effected;—the affusion of cold water on the head, was tried in several cases with advantage; in one or two instances the powers of life were overwhelmed on the onset of the disease, the patient being in a state of collapse and sinking, as if from cholera."—*Dated* 30*th June,* 1838.

Tables No 3 and 4, in like manner shew the amount of sickness and mortality, amongst the native troops, for the same period of ten years. The total number treated has been 30765, and 619 deaths have occurred, from an aggregate strength, of 49313 men; thus giving 62·387 admissions into hospital for every 100 men, and 2·012 deaths per cent on the number treated, and 1·255 deaths per cent on the strength; these averages have been pretty uniform, during the entire period.

As amongst the European troops, the admissions and deaths have been most numerous, during the second half yearly period, and were caused by fever, cholera and bowel complaints.

The most numerous admissions have been from *fever* (nearly one-half of the whole number admitted, were from intermittent fever) *rheumatism, bowel complaints, cholera and syphilis*; the mortality has resulted principally from *fever, cholera, rheumatism, thoracic diseases and bowel complaints.*

Cholera prevailed, but to a limited extent, amongst the European troops, in 1831, 32, 33 and 1834, and amongst the native troops, in 1831, 32, 33 and 1837; and on all these occasions, whilst both bodies of men were stationary at Kamptee; the greatest number of cases, and of deaths, occurred in the months of June, July, August and October.

In the large and more comprehensive tables Nos. 5 and 6, for five years, the diseases have been classified in the usual

manner, both for the European and native sick. The total admissions amongst the European troops, amount to 12376, and 188 deaths have taken place, from an aggregate strength of 5070 men ; the per centage of admissions to strength, being 244·102, of deaths to sick treated, 1·519, and of deaths to strength, 3·708 ; coinciding in these respects, pretty closely, with the results given in the table for ten years.

The corresponding table No. 6, for the native troops, gives 70·448, as the annual number of admissions for every 100 men, and 1·818 deaths per cent on the sick treated, while the per centage of deaths to strength, during the same period, has been 1·280; the total admissions being 16554, and the deaths 301, from an aggregate strength of 23,498 men.

The tabular statements Nos. 7, 8, 9 and 10, exhibit at one view, the proportion and per centage of admissions and deaths, from the most important diseases, and from the principal classes of disease, both amongst the European and native troops.

The three following tables have been drawn out, to exhibit the relative healthiness of the horse and foot artillery, and of the Madras European regiment, which composed the European part of the Subsidiary force.

No. 11.—*Table exhibiting the number of admissions and deaths, in the* 1st *Madras European regiment at Kamptee, from* 1829 *to* 1839, *exclusive of* 1831.

Aggregate strength 6383.	Admissions.	Deaths.	Per centage of sick to strength.	Per centage of deaths to sick.
Fevers	4,703	55	73·680	1·169
Cholera	123	27	1·926	21·951
Diarrhœa	426	14	6·673	3·286
Dysenteria acuta	757	44	11·859	5·812
,, chronica	123	4	1·926	3·252
Hepatitis acuta	417	15	6·532	3·597
,, chronica	251	3	3·932	1·193
Catarrhus	156	5	2·443	3·205
Hæmoptysis	2	1	0·031	50·000
Asthma	8	1	0·125	12·500
Phthisis pulmonalis	5	2	0·078	40·000
Pneumonia	124	3	1·942	2·419
Apoplexia	17	12	0·266	70·588
Epilepsia	66	0	1·033	0·000
Paralysis	40	2	0·626	5·000
Amentia	4	1	0·062	25·000
Mania	22	1	0·344	4·545
Ebrietas	411	1	6·438	0·243
Delirium Tremens	83	1	1·300	1·604
Anasarca	20	2	0·313	10·000
Ascites	19	6	0·297	31·578
Rheumatismus acutus	656	4	10·277	0·609
,, chronicus	402	7	6·297	1·741
Syphilis &c.	1956	9	30·643	0·460
Morbi oculorum	131	0	2·052	0·000
,, cutis	40	0	0·626	0·000
Other diseases	3,610	32	56 556	0·886
Total	14,572	252	228·293	1·729

NOTE.—Per centage of deaths to strength, 3·947.

No. 12.—*Table exhibiting the number of admissions and deaths, in the European foot artillery at Kamptee, from* 1829 *to* 1839 *inclusive.*

Aggregate strength. 2179.	Admissions	Deaths.	Per centage of sick to strength.	Per centage of deaths to sick.
Fevers	1050	14	48 ·187	1 ·333
Cholera	18	10	0 ·826	55 ·555
Diarrhœa	193	4	8 ·857	2 ·073
Dysenteria acuta	280	11	12 ·849	3 ·928
„ chronica	1	0	0 ·045	0 ·000
Hepatitis acuta	266	8	12 ·207	3 ·007
„ chronica	9	1	0 ·413	11 ·111
Catarrhus	84	0	3 ·854	0 ·000
Hæmoptysis	3	0	0 ·137	0 ·000
Asthma	7	0	0 ·321	0 ·000
Phthisis pulmonalis	0	0	0	0
Pneumonia	41	0	1 ·881	0 ·000
Apoplexia	5	4	0 ·229	80 ·000
Epilepsia	8	0	0 ·367	0 ·000
Paralysis	5	0	0 ·229	0 ·000
Amentia	2	0	0 ·091	0 ·000
Mania	2	0	0 ·091	0 ·000
Ebrietas	499	3	22 ·900	0 ·601
Delirium Tremens	110	2	5 ·048	1 ·818
Anasarca	16	0	0 ·734	0 ·000
Ascites	0	0	0	0
Rheumatismus, acutus	296	4	13 ·584	1 ·351
„ chronicus	61	1	2 ·799	1 ·639
Syphilis &c.	593	2	27 ·214	0 ·337
Morbi oculorum	45	0	2 ·065	0 ·000
„ cutis	6	0	0 ·275	0 ·000
Other diseases	1115	7	51 ·170	0 ·627
Total	4,715	71	216 ·383	1 ·558

NOTE.—Per centage of deaths to strength, 3·258.

No. 13.—*Table exhibiting the number of admissions and deaths, in the European horse artillery at Kamptee, from* 1829 *to* 1839, *inclusive.*

Aggregate strength 1240.	Admissions.	Deaths.	Per centage of sick to strength.	Per centage of deaths to sick,
Fevers	1037	18	83·629	1·735
Cholera	14	3	1·112	21·428
Diarrhœa	118	1	9·516	0·847
Dysenteria acuta	151	8	12·177	5·298
„ chronica	0	0	0	0
Hepatitis acuta	203	4	16·370	1·970
„ chronica	5	0	0·403	0·000
Catarrhus	23	0	1·854	0·000
Hæmoptysis	0	0	0	0
Asthma	1	0	0·080	0·000
Phthisis pulmonalis	1	0	0·080	0·000
Pneumonia	32	0	2·580	0·000
Apoplexia	2	2	0·161	100·000
Epilepsia	3	0	0·241	0·000
Paralysis	11	0	0·887	0·000
Amentia	4	1	0·322	25·000
Mania	0	0	0	0
Ebrietas	55	0	4·435	0·000
Delirium Tremens	25	0	2·016	0·000
Anasarca	1	0	0·080	0·000
Ascites	7	0	0·564	0·000
Rheumatismus acutus,	193	0	15·564	0·000
„ chronicus	22	0	1·774	0·000
Syphilis &c.	358	0	28·869	0·000
Morbi oculorum	36	0	2·903	0·000
„ Cutis	5	0	0·403	0·000
Other diseases	795	2	64·112	0·251
Total..	3102	39	250·161	1·257

NOTE.—Per centage of deaths to strength, 3·145.

Meteorological Observations, made at Secunderabad in 1843.

	Barometer.			Thermometer.				Amount of rain.	Number of days on which rain has fallen.	Prevailing Winds.
	Mean Maxim.	Mean Minim.	General Mean.	Mean Maxim.	Mean Minim.	General Mean.	Mean daily range.	Inches.	Days.	
January	28·41	28·40	28·40	76·2	57·2	66·6	19	0·25	1	N. E. N. S. E. & N. E. W.
February	28·42	28·37	28·39	80 2	59·3	69·7	21	0·05	1	N. E. S. S. E.
March	28·38	28·35	28·37	81·3	65·4	73·3	15·9	5·40	10	S.E. N. E.
April	28·37	28·33	28·35	88·5	69·9	79·2	18·6	0·30	2	S. E. E.
May	28·25	28·25	28·25	91·2	72·9	82·0	18·3	11·25	8	S. E.
June	28·13	28·12	28·13	90·9	70·4	80·6	20·5	0	0	W.
July	28·12	28·11	28·12	78·7	68·3	73·5	10·4	8·60	12	W.
August	28·19	28·16	28·17	80·1	67·2	73·6	12·9	7·39	13	S.
September	28·26	28·25	28·25	87·9	80·3	84·1	7·6	4·80	6	N. W.
October	28·34	28·29	28·31	78·9	65·1	72	13·8	5 ·2	6	E. & N. E.
November	28·41	28·38	28·39	76·1	54·2	65·1	21·9	0 ·0	0	E. N. E.
December	28·44	28·39	28·41	71·1	49	60	22·1	0·20	5	E. N. E.

Meteorological Observations, made at Kamptee in 1843.

	Thermometer.				Amount of rain.	Number of days on which rain has fallen.	Prevailing Winds.	
	Mean Maxim.	Mean Minim.	General Mean.	Mean daily range.	Inches.	Days.	A. M.	P. M.
January	80·1	63 ·6	71 ·9	16 ·4	4 ·25	2	N.	N. E.
February	87·7	64 ·6	76 ·1	23 ·9	0	0	N. E.	E.
March	86·1	70 ·2	78 ·1	15 ·8	2 ·20	7	E.	N. W.
April	100·6	75	88	25 ·2	0	0	W.	W.
May	103·0	83 ·4	93 ·2	19 ·5	0 ·30	3	W.	S. W.
June	100·5	68 ·4	84 ·4	32	0 ·75	6	W.	W.
July	82·9	75 ·6	79 ·2	7 ·3	18 ·80	24	S. W.	S. W.
August	86·5	77 ·6	82 ·1	8 ·7	4 ·55	10	W.	W.
September	89·6	75	82 ·3	14 ·6	7 ·35	5	W.	W.
October	89·8	72	80 ·9	17 ·8	3 ·40	4	N. E.	N. E.
November	85·7	60 ·9	73 ·3	24 ·8	0	0	N. W.	W.
December	81·1	48·5	64 ·8	32 ·6	0	0	W.	N. E.

TENASSERIM PROVINCES.

General description. The Tenasserim provinces, which include the districts of Amherst, Tavoy and Mergui, were ceded to the East India Company by the treaty of Yandaboo, at the conclusion of the Burmese war, in 1826.

These districts comprise a tract of country upwards of 250 miles in length, lying along the eastern coast of the bay of Bengal, and south of the kingdom of Pegue; the breadth however is inconsiderable, and imperfectly defined, but may be stated as varying, from 25 to 50 miles.

Boundaries, &c. They are bounded on the north by Pegue, from which they are separated by the Martaban or Salween river; on the east lies the country of Siam, separated by lofty ranges of mountains, running from north to south, nearly parallel with the coast, at a distance of from 30 to 40 miles inland, though approaching nearer to the sea at the southern extremity. On the south they adjoin lower Siam, and the Malayan peninsula;—and the entire of the western face is washed by the bay of Bengal, a chain of islands, called the Mergui archipelago, lying along the coast, distant from 15 to 30 miles.

General aspect of the country. The entire face of the country is mountainous, and covered with dense jungle to the tops of the highest peaks;—and it is but thinly inhabited. There are no roads, or even foot paths of any extent to be found, all communications being kept up by water, and villages are only to be met with on the banks of the principal rivers, such as the Salween, Gyne, Attaran, and the Tavoy river, and some others of less importance.

The geological features of the country have been as yet but imperfectly explored, some remarks however on this subject

will be found in the particular description of each of the provinces, as far as the subject has been investigated.

Population. The original inhabitants are a tribe of Burmese, who have from time to time, been under different rulers, having been conquered both by the Peguese and Siamese; —but since the provinces came into the possession of the East India Company, numbers of Chinese, as well as natives of Burmah proper, have settled at Moulmein, where a mixed population, consisting of various castes of people from India, with a numerous and increasing race of Burmo-britons, and Burmo-chinese, is now to be found. The population in 1839, was as follows:—

Town and District.	Houses.	Males.	Females.	Burmese and Taliens.	Siamese.	Chinese.	Malays.	Karens and Toung-thoos.	Natives of India.	Miscellaneous.
Moulmein Town.............	2565	8789	8253	14597	0	510	75	0	2018	0
Do. District including Amherst	6609	21298	20511	31227	0	105	5	10353	119	0
Tavoy Town..................	1953	5206	5281	9523	0	584	53	0	328	0
Do. District..............	1756	12520	12702	23173	26	54	50	1616	3	0
Mergui Town................	1358	3764	3641	6871	23	180	15	3	55	258
Do. District...............	1723	5389	5068	6751	1376	34	337	1531	0	428
Total..	18,961	56,966	55,459	92,242	1425	1197	1533	13,503	2517	686

Animals, wild and domestic. The domestic animals to be met with on this coast, are almost limited to the buffalo, pig and the pariah dog—neither sheep,—black cattle, nor horses being bred;—poultry, of various kinds, is however abundant.

Of wild animals the principal are the royal tiger, elephant, cheeta, bear, wild hog, and several different species of deer. Of birds there are pea-fowl, a species of pheasant, jungle fowl and snipe, in great abundance at certain seasons of the year. Several of the mamalia and birds however, common to India, such as sheep, oxen, hares, jackalls, foxes, partridges, &c. are not to be found, the extreme moisture of the climate, appearing to be inimical to them; and both sheep and oxen soon get out of condition, even with the greatest care and attention.

Exports. The chief exports of the provinces consist of teak-wood, rice, hides, horns, elephant's teeth, tin, bird's* nests, betel nut, cardamoms and bee's wax.

* Edible nests for the Chinese market.

Teak-wood. Extensive forests of teak-wood of the largest size, are to be found along the entire of the coast, and a valuable trade in timber, is carried on at Moulmein;—large establishments, at which numbers of elephants are employed, being kept up in the interior of the country, for the purpose of felling and preparing the timber, from whence it is floated down by the rivers.

Ship building. Several ship building establisments, are in full operation, on the banks of the Salween river—the principal of which are at a place called Namoo, distant eight miles, and at Tavoy-zoo, three miles below Moulmein; and vessels of beautiful structure, and of 4 or 500 tons burden, are always in progress at these places. Considerable quantities of teak-wood have also, of late, been sent direct to England.

Military stations. The principal stations in the provinces are Moulmein, or Maulmein the head quarters of the force, nearly opposite to the burmese town of Martaban, on the Salween river—Amherst a station for a company of native troops, at the mouth of the river, 28 miles below Moulmein;—Tavoy 150 miles south of Amherst, on the coast; and Mergui about 100 miles south of the latter place.

The approach to the Tenasserim coast from the sea, is highly picturesque, forming an outline of chains of irregular hills, to the northward and eastward; and although the low land on the Rangoon shore, is not visible, ranges of hills are seen to stretch from north-west to south-east, in the back ground:—and present a bold undulating appearance.

The small town of Amherst lies at the mouth of the Martaban river, on a point of land running out to the north-west, after passing which, the view along the river becomes dreary, the banks possessing but little interest, and the few villages and huts to be seen, having a wretched appearance. The jungle approaches close to the slimy banks, and except a few canoes, to be seen here and there, either crossing the stream, or stealing along the shore, there is no appearance

of life, until arriving off the ship building station of Namoo, situated on a small promontory on the right bank of the river, where it forms a bay.

A few miles further up the stream, on the opposite side, is the village of Tavoy-zoo, and which may now be said to form the commencement of the town of Moulmein.

Ships anchor immediately off the town, but owing to a high embankment intercepting the view, the military cantonment, cannot be seen from the river.

Station of Moulmein. Moulmein, lying in north latitude 16º 3º, and east longitude 97º 38″, is situated on a bend of the river. Formerly there was a populous walled town, on the site of the present cantonment, and the remains of the wall are still to be seen, forming the bounds of the military station, and separating it on the west and north sides, from the native town, which extends along the edge of the river, for about two miles and a half, most of the houses are built on posts, on the bank of the river, and over ravines, with the water flowing under them.

On the east side, a hilly ridge rises from the north angle, extending southward, and on the highest part at the south-east angle, it is surmounted with a large burmese pyramidal temple, adorned with gilding, and filled with numbers of colossal statues of idols, the principal building being surrounded by a number of small pagodas, of various dimensions.

The height of the ridge at this part is about 124 feet above the level of the cantonment. It stretches southward for several miles, and a road leads along the summit, on every high point of which, is a temple. The officers houses are built on the western slope, and at the base of this ridge, and in front of them are the barracks, and the parade ground.

Military cantonment. The distance, from the foot of the hill, to the river, is about half a mile, and from right to left of the cantonment, the ground forms a series of gentle sweeps.

PLAN OF MOULMYNE.

0 50 100 200 300 400 800 1200
Scale of 400 Yards to an Inch

H. C. Rogel. delt.

The remains of an old fort, a work of great labour are here to be traced, forming an oblong, of about a mile in length, and rather under half a mile in breadth. On its eastern side, is the range of hills, the opposite side terminating almost in the river, is protected by a double ditch; within this space are the lines of the artillery, the European regiment, and one native infantry corps, with the commissariat and other stores. The roads throughout the cantonment, are in excellent order, and the intermediate spaces, not built upon, form a beautiful green sward.

Old fort. The fort is considered by some, to be the work of the Portuguese, but it may with more probability, be supposed to have been the capital, or strong hold, of the Taliens, by which people the country was held about two hundred years ago.

Jail. Outside of the fort, the ground descends, and a little to the west is the jail, a large enclosed building, capable of containing from 12 to 1400 prisoners; and on the crest of a small rising ground, are the lines of the Talien corps, a local battalion, officered by Europeans.

The houses are all constructed of wood, raised on posts, and thatched with the leaves of the Neepa-palm.

The ground on which the barracks and hospitals are situated, is of a sandy nature, and slopes towards the river, so that the rain quickly runs off, or becomes absorbed.

For eight months in the year, the surface is covered with grass, but during the other four, it is dried up, and brown.

A dense jungle covered the cantonment, when it was first occupied by the British, in 1826, but when clearing it many large trees were left standing, which contribute much to the beauty of the scenery.

The river, opposite the town, is about a mile wide, and is navigable for vessels drawing 12 feet water. The tide rising 18 feet at the springs. The water is fresh in the rainy season

but always turbid, at other times it is brackish. The shores are generally muddy, and there are sand-banks and mud flats, opposite the station, visible at low tides.

Native Town. The native town, built along the river, is chiefly composed of bamboo houses, erected on posts and thatched. These dwellings are generally spacious and airy, but the ground beneath, is often muddy and overflowed by the tide. The principal street however, is well raised and dry, and kept clean. To avoid the danger of fires in hot weather, the thatch is stripped off, but this has not prevented sudden and extensive conflagrations.

The adjacent country, in the north-east direction, consists of extensive alluvial plains, intersected by three great rivers, the Salween, Gyne, and Attaran, and by numerous creeks, and belts of jungle. The plains are mostly uncultivated, covered with coarse grass, and are overflowed at spring tides, and also in the rainy season. Several abrupt crags rise in them almost perpendicularly; and their altitude is considerable, that at Trokla, which forms a most picturesque object, has been ascertained to be 2600 feet. They are chiefly composed of limestone, and caves are found in many of them, some of which pass completely through the hills, forming extensive tunnels, appropriated to religious purposes. To the south-east the country is hilly, and covered with jungle, some plains of limited extent intervening; the hills are of moderate height, and of a rounded form; they are composed of sandstone, and in one of them, a vein of sulphuret of antimony has been found.

Hot wells. Near the old town of Attaran, there are several hot springs, the temperature of which has been found to be 136° of Far; the water is tasteless, but deposits a calcarious crust, containing carbonate of iron.

Isle of monsters. In the south-west direction, is the island of Baloogeoun, or "the isle of monsters", in the rich alluvial plains of which, much rice is cultivated, the crops yielding 120 fold.

Buffaloes, of a large and fine breed, are used for agricultural labour, and are sufficiently numerous for the wants of the people ;—these animals require no care, are never housed, and have always abundance of pasturage in the marshy grounds ;—the natives of the country never use their milk, a universal prejudice existing against it as an article of food.

On the north bank of the river, is an open passage to the sea, wide but shallow, and only navigable for boats; the sea breeze, which blows through it in the hot months, is cool and pleasant.

Province of Martaban

To the north of this channel, is the district of Martaban, belonging to the burmese; It is generally mountainous covered with jungle, and is said to be very unhealthy. The summits of the hills, are crowned with numerous pyramidal temples, which, when viewed across the broad expanded waters, form a scene of great beauty, not equalled by any thing to be seen in India, unless perhaps the harbour of Bombay.

Interior of the district.

It is stated by persons who have explored the rivers, that the Attaran, which winds to the south east, leads into dense teak forests, and a totally uninhabited country; that, about 60 miles from Moulmein, the river is narrow, with banks from 30 to 40 feet high, which with the thick foliage, almost shut out the light of day. The river Gyne leads through a more open country, passing through plains, and along its banks are a considerable number of villages. This river, is navigable for small boats for 180 miles into the interior, and along its banks, at the most distant point, are to be found the finest teak forests.

Teak forest.

With the exception of the few villages met with on the banks of the river, the whole interior is a complete wilderness, destitute of inhabitants ;—there are generally about two hundred men employed in the forest felling wood, and preparing it for rafts, to be floated down the river. The process adopted, is to kill the tree by barking it

all round, three years previous to its being felled; during this period the wood becomes dry, and light enough to be floated, which the recently cut tree is not. The unfair traders however, dry the fresh cut trees, by burning them at one end, but, the timber so prepared is considered to be of inferior quality. To convey it to the waters edge, the assistance of elephants is necessary; and those who from want of capital are unable to procure these useful animals, are obliged to cut the logs into short lengths, for the facility of transport. Wood, the produce of the lower part of the country, does not appear to be of much value, as an article of commerce.

Geology. Stratified sandstone is the prevailing rock throughout the district, having a dip to the north-east, as may be seen along the ridge of hills, southward of the pagoda of Moulmein. It is intersected with veins of quartz, and crystals of great brilliancy, are found in the interstices, which are formed by the burmese, into mock diamonds, like the Bristol stones.

Vesicular iron stone or tufa, is the next most prevalent rock formation. It is the same as that, which is found on the coast of Malabar, called "laterite," and appears on the surface in several places, forming a good material for roads.

Below the rocks, bituminous schale is found, in digging wells, some of which would serve for crayons and is used by the Siamese, for writing upon coarse white paper.

No granite is seen in the neighbourhood, but at Amherst harbour, there is a reef of granite rocks, which is covered by the tide, but is bare at low water. Pipe clay is dug up from between strata of sandstone, and is of that description used by soldiers, for cleaning their belts. Limestone is obtained readily from the crags, in the plains to the north-east, and it is well adapted for the purposes of building, and may be brought down at little expense, by boats or rafts, from Damath and Cogoon.

The soil in the cantonment, is light, sandy and answers pretty well for gardening, but requires abundance of manure: and

European vegetables are successfully cultivated, during the cold months.

Climate. The year is divided, according to the natives, into three seasons; the cold from November to March, the hot from March to July, and the rainy season from July to November; but the rains generally begin about the end of April, and moderate a part of the hot season.

After the vernal equinox, southerly winds, which are loaded with watery vapour, prevail, and continue to blow, varying from south to south-west, till the autumnal equinox sets in. During this season the air is clear and transparent, and the sun's rays are so very powerful, that men accustomed to exposure in the Carnatic, cannot bear it here. The natives even, generally use umbrellas.

The vapours accumulating, soon however, form into clouds, and intercept the sun's rays, and after the month of May, it very seldom shines out, till the end of the rainy season.

During this time, the air is so loaded with moisture, that furniture becomes mouldy, the glue, as also the binding of books give way, iron attracts rust with rapidity, and seeds lose their vegetating properties, unless kept in bottles closely stopped. The barometer at this season seldom rises above 30 inches, and usually ranges within two tenths below that point; and the rain falls in torrents, accompanied with thunder, particularly at the commencement and ending, of the south-west monsoon.

Record of the Pluviometer at Moulmein.

MONTHS.	1829	1830	1831	1832	1834	1836	1837	1838	1839	1840	1841	1842	1843	Average fall in each month for 12 years.
January	0	0	0	It rained on 126 days, and there fell 180 inches.	0	0	0	0	0	0	0	0	0	0
February	0	0	0		0	0	0	0	0	0	0·15	0·30	0	0·03
March	0	1·03	0		0	0	0	1·80	0	0	0	0	0	0·23
April	3·41	1·32	0		0	0	0	3·45	2·87	1·90	0	0·80	0	1·14
May	5·21	6·39	13·00		22·00	29·00	33·25	15·32	23·61	19·61	18·40	11·10	13·40	17·52
June	24·57	16·38	28.55		57·00	36·00	15·93	39·36	35·69	30·10	44·80	52·50	32·10	34.39
July	31·66	31·12	42·03		46·00	23·50	44·36	59·07	56·82	54·79	57·80	55·10	34·45	41·85
August	39·72	20·31	23·33		42·00	37·00	63·64	62·11	24·32	46·91	26·55	24·60	.39·10	37·46
September	27·63	27·93	22·49		44·00	30·12	26·00	39·95	23·20	16·10	20·40	40·20	26.97	28·74
October	0	2·43	10·55		7·50	14·50	13·27	5·83	13·18	12·90	2·21	6·60	2·00	7·58
November	0	5·19	1·90		0	7·00	6·14	3·10	1·50	2·10	0·80	1·00	0·50	2·43
December	0	1·02	0		0	0	0	0	0	0	1·95	0	1·60	0·36
Total	132·20	113·15	141·65	180·00	218·50	177·12	202·59	229.99	181·19	184·41	173·06	192·20	150·12	189·68

After the autumnal equinox, variable winds and sultry weather prevail, for four or five weeks, until the north-east wind sets in, which it generally does after the first week of November, when the atmosphere becomes dry, and hazy. The evaporation of water, in an earthern pot, at this time, sinks the thermometer from 16° to 20° below the temperature of the air ; the barometer stands above 30 inches, and varies from that to 30.2. The sun's rays be-

come much less powerful, and fogs are frequent in the mornings, clearing up at 9 or 10 o'clock.

Bazaar supplies. The bazaar supplies are abundant, and generally good; and the soldiers are victualled by the commissariat. Excellent bread is made from Ava wheat; beef the usual animal food, is tolerably good; the cattle being brought from the country of the Shans, lying to the eastward, they are too small for draught purposes, but the flesh is of good quality.

Venison is generally procurable in the market, as also pork, fowls, ducks, turtle's-eggs, fish, prawns, and mætha, or dried meat, cured by the hunters, in long shreds;—several of the country vegetables common in India, are to be had, and also a great variety of wild herbs and fruits, particularly the acid sorts, which are prized by the burmese, as correcting the putrescent qualities of napee, the usual condiment eaten with rice.*

Rice. Rice is here always kept in the husk, and is beaten out as required for use, in this way it is better preserved from damp, mouldiness and weevils.

The sheep are all imported, and require much care, particularly during the rains, when unless kept on boarded floors, they die in great numbers.

The price of a good gram fed sheep, varies from 12 to 20 rupees.

Goats appear to thrive somewhat better than sheep, but are not always procurable; and if the long legged black goat of India, was introduced in sufficient numbers, so as to be within the sepoys means, it would be a great desideratum.

Pigs are reared by the chinese,—poultry, which are abundant in the wild state, are domesticated by the kareens, and burmese; and ducks and geese, which thrive well, and are principally imported from Rangoon.

* Napee is made either of shrimps, which is the best sort, or of small fish in a half putrid state.

The forests, particularly on the banks of the river Gyne, abound with deer and wild hog, from whence they are brought to the market.

The only kinds of fish to be found in the market, are those taken in the river, as the cockup, which grows to a great size, the murrell, the mangoe fish, with several species of prawns and cray fish.

Fruit and vegetables. Gourds, pumpkins, plantains, water-melons and sweet-potatoes, are to be had in abundance; among fruits, is the pine apple, from June to August, small mangoes, oranges, guavas, with some wild fruits peculiar to the country. Rice is usually cheap, but many other articles of ordinary consumption, such as d'hall, ghee, pepper, chillies, cocoanuts, and even tobacco, are imported. The betel nut is exposed for sale, in its fresh state, covered with the husk.

Manufactures. The chief articles of native manufacture, consist of silk and cotton cloths, and the former though of coarse texture, are much prized on account of their durability, and the beauty of their colours. Lackered boxes, in considerable variety, and daws or large knives, which are used both for domestic purposes and as instruments of war, carved cocoanut shells and ivory ornaments, such as handles of knives, &c. are also manufactured; and the principal native merchants deal in precious stones, such as rubies, diamonds, and sapphires, brought from the eastern parts of Ava and Siam; they are however exorbitantly dear, the prices usually asked for them, being much above their intrinsic value.

Natives of India, soon become addicted to intemperance in this country, being in a great degree loosed from the restraints of caste; Europeans also, appear to obtain spirits with greater facility, than at most Indian stations.

Water. The water used by the troops, is taken from wells, in different parts of the cantonment, the best being on the parade ground. The supply is abundant and good, even in the driest weather, though some of the wells fail at that time. The depth from the surface, varies from 20 to 30

feet, according to situation, and the season of the year. Ships occasionally procure their water by boats, which ascend the Salween river, as far as the tide will carry them, where they find it fresh and clear.

Manners and customs of the inhabitants.

The native inhabitants of this province, are divided into three classes, the Kareens who appear to be the aborigines, the Taliens, and the Burmese. They are all of short stature, but of a robust make, though a marked difference,both in the expression of the countenance, and conformation of the body, may be observed in them ; the Kareens are less muscular than the Taliens, while the prominence of the nasal and malar bones, approximates more to the European countenance.

In colour all classes of the inhabitants are of a light bamboo, none are black, and the women are usually much fairer than the men. The young men have their beards, and hair on the breast, carefully pulled out ; but that on the head is long, and of a jet black. They soon become old looking, few are long lived, and a man of 45 or 50, is said to be aged ; although some are to be found, of 90 years.

The burmese are an indolent vain race, and from their wants being few, and the price of labour high,they only work so as to procure the simple necessaries of life. The expenses of a family do not exceed three rupees a month, and it is not an uncommon thing, for those who have procured a sum of money, to remain idle whilst it lasts, amusing themselves with the sports of the country. They are principally engaged as sawyers, and labourers about the docks ; and few, or none, enter into commercial speculations.

They eat almost every thing in the way of food, but, their general diet consists of vegetables, with condiments, and the preparation of fish called "*Napee*" or "*Balashang* ;" their religion forbids them to shed blood, but any animal, from the elephant downward, which dies, is immediately cut up and eaten, without reference either to the description of animal, or to the disease of which it may have died ; fish is much used by them, as in its death, no blood is shed.

Marriages. Judging from the number of children to be seen, they must be considered a prolific race; marriage is a civil contract,easily broken, and no disgrace is incurred by the separation of man and wife, and their contracting new domestic engagements; like all eastern nations they marry young.

Dress. The dress is gaudy, that of the men consists of a plaid, of cotton cloth, wrapt round the loins, much like the hindoos, but one end of it is thrown over the shoulder; their dress on occasions of festivals, is a silken plaid, of bright red and yellow colours, and the head is generally ornamented with a gaudy coloured handkerchief, the hair being worn tied into a knot, on one side.

The dress of the women consists of a narrow petticoat, open in front, and secured about the loins, and under the arm pits; it passes across the bosom, but the shoulders are left bare, and it is of such narrow dimensions in front,that at every step, the knee and lower part of the thigh are exposed; when engaged in domestic occupations, the bosom in elderly females is exposed, but that of the young female is invariably covered—They also frequently wear a loose jacket, reaching to the hips; most of the women have silk clothes, for festival occasions, but the upper part, which covers the bosom, is always of red cotton.

Although subject to the British for nearly 20 years, the energies of the people have been turned to no practical account, for they neither take employment as sailors, nor soldiers, save a few Taliens, who often desert their corps. A few are employed as peons, and mahouts, by the commissariat, but the bulk of the labouring community, are either natives of Bengal or Madras. The burmese enjoy our protection, but give little in return.

The men are all tattooed, with a dark blue pigment, from the loins to below the knee, and the operation is performed with considerable skill, giving the appearance of the person wearing dark lower garments; some are also tattooed over the shoulders, with a red pigment. The women are never tattooed.

The poorest of the burmese have curtains to defend them from the attacks of mosquitoes, from which they seem to suffer as much as strangers, these insects being extremely troublesome throughout the rainy season.

Use of Tobacco and opium. The practice of smoking tobacco is universal, from the child to the most aged person. Opium is also used, but not in great quantity, except by the chinese, it being considered a disreputable habit; and the name of opium eater and thief, are synonymous in the language of the country.

Disease of the natives. Rheumatism is the most common of the diseases seen, but it is not of great severity.

Bronchocele. In the highlands both of Siam and Ava, bronchocele is frequent, but the enlarged gland does not attain any great size, nor is it accompanicd by cretenism ; it is attributed to the quality of the water by some, and by others to the use of earth salt.

Small pox. Small pox, has been a dreadful scourge to this country, and inoculation is practised to a considerable extent, to lessen its severity. In the treatment, the burmese kecp the patients cool, and water is sprinkled over the body occasionally ; in Siam the patient is bathed several times a day in cold water, from the time the eruption first makes its appearance.

Vaccination failure of. All attempts at permanently establishing vaccination have failed, in consequence of the extreme dampness of the climate, destroying the specific qualities of the virus, to transport and preserve which, every possible expedient that could be thought of, has been tried.

Cholera. Cholera has occasioned great mortality from time to time, in some districts ; in 1824 and 25 it raged with great violence in the burmese army above Prome ; and sporadic cases occur annually.

Unhealthy seasons of the year. The periods considered most unhealthy by the natives, are the commencement and termination of the

rains in May and October, particularly the latter, when fevers are common in the inland villages, and in the forests ; and in 1839, nearly all the wood cutters were obliged to come into Moulmein, on account of fever. The intermittent is the usual form of the disease, though remittents, and even continued fevers, are not unknown.

Frambæsia. Framboesia, or the yaws, is not uncommon among the native population, and is called by them " tongo ana." It is classed with venereal affections, and considered infectious. The remedy chiefly relied on for its cure, is the smilax china.

Aphtha. Aphtha, and inflammation of the tongue and fauces, extending to the stomach and intestines, are not uncommon, and prove obstinate and intractable.

Trismus nascentium. Infants, in the cold season, are subject to trismus, which carries off many of them, but after they are a few months old, they are usually healthy, and thrive well.

Leprosy. Lepra is of frequent occurrence, both among the burmese and chinese. It is divided into ten varieties, all of which are considered contagious, and the subjects of it are obliged to live apart from the rest of the community.

Absence of Hydrophobia. Hydrophobia, is said, never to have been known on the Tennasserim coast, or indeed on any part of the Malayan peninsula. At Rangoon however it does occur, and a cure is reported as having been performed there, by an old priest, who prescribed tobacco and stramonium in large doses ; on a late enquiry however, it was found that the priest was dead, and that the monastery in which he lived, had been burnt with all his records. The truth of the statement was however confirmed by respectable authorities, and is on that account noticed here.

Diseases of Cattle. The warm season of 1839, was considered unusually hot, and the cattle which came from the Shan counrty in March, brought with them a disease which spread

extensively at Moulmein, and proved exceedingly destructive.

It usually commenced its attack in a most insiduous manner, and to the inexperienced eye was not obvious, at first the animal appeared dull, the clefts of the hoofs were seen to swell, and the heels to become spongy, next the breath was observed to be offensive, and the gums spongy, with a frothy discharge issuing from the mouth. At this stage, the feet are so much swollen, that the animal can hardly walk, and it gradually becomes emaciated, being prevented from feeding, by the state of the mouth—The bowels were generally confined, and the circulation quickened ; and the disease usually proved fatal, in about three weeks from its first commencement.—From 7 to 800 head of cattle, died during the year.

Several " post mortem" examinations were made, and except in a few instances, in which there was ulceration and softening, of the mucous membrane of the stomach, the principal morbid appearance, was inflammation of the lungs.

Diseases of Elephants.

In this year also, an extensive mortality occurred amongst the government elephants, which commenced in June, after the other epidemic had ceased, though the elephants throughout the provinces were dying in great numbers, a short time previous thereto. " Post mortem" examinations showed, that this disease was also an affection of the lungs, which were seen in various stages of congestion, and inflammation.

In one case suppuration was present, in another tuberculous deposits existed, and generally, one side of the chest only was affected, the other being healthy ; in those who died at its first outbreak, the lungs were black throughout their whole substance, and resembled the spleen in structure, and when cut into, a frothy purulent matter exuded. The liver was always healthy, but the spleen was found to be soft, and engorged with blood.

The symptoms observed in this disease, are very indistinct, the animals continue to eat their food to the last, when they suddenly fall down and die; and they perform their work till within an hour of death.—One animal apparently in good health, on going out to the farm, suddenly fell down and died in half an hour, and another when bringing in forage, died in the same sudden manner.

Military force. The troops consist of one Queen's regiment of foot, two regiments of Madras native infantry, one company of European artillery, and a local baltation called the Talien corps, the whole being under the command of a Brigadier.

European barracks. The European infantry barracks, erected in 1827, are built in open column of ranges, ten in number, running north and south, having a space of 45 feet between each; they afford sufficient accommodation for a complete corps, each range being calculated for 80 men. They are constructed of teak wood, and raised on piles three feet from the ground, with boarded floors, and are thatched with the Neepa palm; each range is 100feet in length, by 25½ in breadth, and 11 feet 9 inches in height, with an open verandah 12 feet broad all round;—there are two doors, and eight unglazed windows with wooden shutters, on each side, and one door and two windows, in each end,—besides which the lower plank in the walls, is on hinges opening outwards, thereby affording ample means of ventilation.

Hospital. The hospital is situated, within a few minutes walk of the barracks, on the north-east side, the locality is objectionable in some respects, the ground being rather confined, and lying between two public roads, which are only shut out by a wooden fence.—It consists of three ranges of, buildings, and a ward for the women and children, a surgery, medical stores, serjeants quarters, dead house &c. the whole, enclosed in an oblong square,measuring 395 by 265 feet, and surrounded by a teak palisading, 9 feet high.—The length of each range is 100 feet, the breadth 19 feet 4 inches; and the height of the walls 9 feet 4 inches;—having four doors, and

fourteen unglazed windows, with wooden shutters in each, with an open verandah 6 feet broad all round, they are constructed in a similar manner as the barracks, each ward is capable of containing 36 patients, allowing five feet for each.—The same means of ventilation are adopted as in the barracks.

The privies belonging to the barracks, are situated too near the cook-rooms, they consist of a deep trench with wooden seats, those of the hospital are connected by covered ways, leading from the verandahs;—every attention is paid to cleanliness, and quick lime is constantly thrown into them.

Artillery lines and barracks. The artillery lines and barracks, are perhaps more eligibly placed, than those of any other corps at this station, they face an open grassy esplanade, of considerable extent, bounded by the low mound, the remains of the fort, and a line of houses, which runs along the bank of the river, as it sweeps round the north west angle of the cantonment,

Hospital. The hospital is at a short and convenient distance from the lines, and possesses all the advantages, of an airy, commodious, edifice, constructed like the other public buildings; it can accommodate 30 Europeans, and 50 natives, exclusive of a ward for women and children.

Native lines at Tavoyzoo. The lines of one of the native corps, are situated near Tavoyzoo, half a mile from the village of the same name, and two and a half miles east of the fort, a range of high hills, covered with low jungle, running immediately in their rear. The ground selected for the huts, is elevated and dry, the soil being chiefly laterite, but in the lower situations, it is a tenacious chalky loam; abundance of good and wholesome water is obtained from wells, and from natural reservoirs formed by the hill streams.—Previous to 1838, it was a complete jungle, but has since been cleared, and good roads leading to the fort and bazaar, have been made; stone bridges have also been erected where required. There is a small bazaar in the lines, and another at the village, in the vicinity.

Sepoys lines. The huts for the sepoys are in lines, each hut being 18 feet by 12, and intended to accommodate 7 or 8 inmates;

they are not raised from the ground, but the men sleep on bamboo frames, elevated 4 or 5 feet. These buildings are not considered as well suited to the climate, as those used by the natives of the country, which are all so well raised as to allow a free circulation of air underneath them, to carry off the damp exhalations arising from the ground.

The principal diseases of the sepoys, are caused by inattention to their food and comforts, as the men, from habits of penuriousness, deprive themselves of wholesome* food.

The baneful practice of opium eating, has also been known to exist, in some of the native corps, to a considerable extent.

Native lines in cantonment. The lines of the other Madras native corps, are within the limits of the old fort, not far from those of H. M.'s regiment, on elevated ground, near the base of the hills, and are very eligibly situated.

Diseases of the troops. The diseases most prevalent at Moulmein amongst the troops, are fever, dysentery, diarrhœa, hepatitis, ulcers, and rheumatism. Catarrhal and pulmonic complaints, also prevail at certain seasons; the sepoys are subject to atrophy, beriberi and dropsy; and some Europeans have been found to suffer from a scorbutic diathesis. There are generally between 4 and 5 per cent in hospital; the deaths are 3½ per cent per annum in Europeans, and about 1⅓ per cent in natives.

Fever. Fevers are most commonly of the class of intermittents, as might be expected from the vicinity of swampy plains, and jungles, and the muddy banks of a river overflowed by the tide, and exposed to the influence of a tropical sun. That fevers are not more frequent and severe, is perhaps attributable to the accommodation for the men being good, the situation of the cantonment being on sloping ground, which is of an absorbent nature, and the easterly winds being screened off by the hills.

Fevers have become milder, and less frequent every year, since the station was first occupied, showing that the effect

* They are now furnished with rations, and a great improvement in their health has in consequence taken place.

of clearing jungle is not experienced, till some years have elapsed.

The most severe cases have occurred at Baloogeoun island, in the teak forests; and, at Amherst harbour.

The men employed in cutting teak timber, suffer very much at the commencement of the rains, and when once attacked, are generally obliged to quit the forests for a time, as they do not recover whilst they remain there. When the rains have fairly set in, fever is less to be feared than at other times, and this is the season usually chosen for floating down timber rafts.

Dysentery. Dysentery and liver diseases are the most fatal complaints amongst Europeans; and prisoners confined Scurvy. in the solitary cells, generally men of dissipated habits, have suffered from a scorbutic diathesis; the subjects of this affection always require a removal from the climate, neither diet nor medicine being found of benefit, when once it has been established; and on this account, the punishment of solitary confinement, during the rainy season in particular, is unsuited to the climate.

The asthenic diseases, from which the native troops suffer, also require a speedy removal from this climate.

It is worthy of remark, that the prisoners, and public followers, not employed on night duties, are exempt from many of the low forms of disease, from which the troops suffer.

Scrophula. The climate is thought to be inimical to strumous diseases, and to complaints occurring in a scrofulous habit of body; and glandular swellings, which run into suppuration, are very difficult to heal.

Pulmonary diseases. Pulmonary complaints were at one time thought to be very prevalent; and that a residence here was highly dangerous, for persons having a phthisical tendency, but this idea seems to be over-rated, as many circumstances are in favour of the consumptive; such as the mildness of the climate,

the absence of hot winds, and the slight variation, in the daily range of temperature.

Ulcers. Ulcers are difficult of cure during wet weather.

Hepatic diseases. The climate is supposed to be unfavorable to hepatic complaints, and in a few instances this opinion has been borne out, but the cases were those of men, who were supposed to have previously laboured under organic disease of the liver.

The diseases have some reference to the seasons, viz., fevers prevail most, from the latter part of February till May; bowel complaints occur in the rains, particulary at their commencement; and pulmonary complaints during the cold season.

Health of the Hindoo and Mussulman residents. The resident mussulman and hindoo inhabitants, appear to enjoy good health, and amongst the natives, there are few diseased persons to be seen, and no mendicants.

Health of Convicts. In the jail for four years, the average deaths to strength, were as follows :

Years.		Mean Strength.	Died.	Proportion of death to strength.
1835	1st Half year	540	11	1 in 49
	2d do.	670	16	1 in 41
1836	1st do.	750	14	1 in 67
	2d do.	850	12	1 in 70
1837	1st do.	890	17	1 in 52
	2d do.	930	24	1 in 40
1838	1st do.	1006	22	1 in 47
	2d do.	1050	28	1 in 37
1839	1st do.	1130	20	1 in 37
	Total....	7216	174	or 1 in 41,04

The above statement, includes men of all ages, many of whom are confined for life ; they are under strict discipline, are well fed, and not overworked. Each man is allowed a basket of rice, containing 54 lbs, and one rupee in cash, monthly, besides firewood, and the prisoners are divided into messes of 50. Each individual contributes 12 annas for bazaar expenses, the remaining 4 annas being expended as they please.—Breakfast consists of vegetable curry with rice, and dinner of d'holl curry, with fish occasionally.

General Description and situation.

The small station of Amherst, is situated on a narrow neck of land, at the mouth of the Martaban river, and is the extreme north-western point of the Tenasserim provinces.

A bold range of wooded hills, rises within a short distance, on the inland side of the town, leaving a limited space of level ground, but partially cleared of jungle,—between them and the sea on one side, and the river on the other.

Amherst is about 28 miles from Moulmein by the river, but the distance by land, is considerably less, there is however no road either for carriages, or cattle of any description, a path way running through swamps, and over rugged hills, being the only land communication, and this is only made use of on particular occasions, for foot runners, chiefly to convey intelligence to head quarters in hazy weather, of the arrival of ships off the river.

Troops.

A detachment consisting of a company, from one of the native corps at Moulmein, under a subaltern officer, occupies the little town, the chief importance of which is, its being a convenient pilot station, no ships of any description, being able to proceed up the river, in consequence both, of the rapidity of the stream, and the danger arising from numerous banks and shoals, without an experienced pilot.

Pilot station

When the Tenasserim provinces were first ceded to the East India Company, in 1826, it was contemplated by

Sir, A. Campbell, Commander in Chief of the Rangoon expedition, to establish the head quarters of the British force at Amherst, the limited extent of open ground however, and also an apprehension that it might prove unhealthy, from the immediate proximity of hills covered with dense jungle, caused him to abandon the original intenion, and finally to select Moulmein; and as Amherst was for some time found to be very feverish, from May till near to the end of the year, or during the rainy season, it was considered fortunate that it was not made the head quarters of the provinces.

Much of the jungle in the immediate vicinity, has of late years been cleared away, and the station has consequently become more healthy, and during the hot and dry months, of February, March and April, it is now resorted to by invalids from Moulmein, as well for the benefit of change of air, as to enjoy the cool sea breeze, and salt water bathing. European soldiers are also frequently sent there, at the same season, and men suffering from chronic complaints, or general debility, the consequence of acute disease, are found to derive great benefit from the change.

Sugar cane Planters.

A considerable part of the cleared land in the vicinity, is at present under sugar-cane plantations, a company of European merchants having established a manufactory at Amherst, where sugar of excellent quality is made for the Calcutta market; and the speculation is likely to turn out well, the soil and climate, being both favorable to the growth of the cane.

DISTRICT OF TAVOY.

General description.

Tavoy lies between the districts of Moulmein and Mergui, being in length from north to south, about 140 miles, and in breadth about, 40 miles. It is very hilly throughout its whole extent, the hills, and also the valleys and plains, with few exceptions, being covered with dense jungle; the hills run in ridges, generally in the direction of north and south, separating the district, from

the country of Siam, and none of them exceed in elevation 4500 feet.

There is only one river of any importance in the district, called the Tenasserim river, it rises in the northern part, in latitude 14° 8″, and after a southerly course of about 70 miles, nearly parallel to the sea coast, and not very distant from it, enters the sea in north latitude 13° 30″. It is shallow, broad, has a rocky bed, and is full of islands and sand banks, and is not navigable for vessels of any size, for more than fifteen or twenty miles from its mouth. Small junks, and other craft of little burden, ascend as high as 30 miles, but not without difficulty; though the influence of the tide extends as high as 50 miles. Besides the Tenasserim river, which forms a portion of the eastern boundary of the district, there are also a few small and insignificant streams, of little use even for the purposes of irrigation.

The Tavoy valley, through which the river flows, is open to the south, bounded on the west by a range of hills extending along the sea coast, the highest of which attains an elevation of about 1800 feet; and on the east by a series of ranges, the most easterly of which are the highest. This valley, the principal situation in which rice is cultivated, is at its broadest part, a few miles above the mouth of the river, about 10 miles across, but becomes gradually narrower to the northward, until shut in by hills.

Geology. The principal geological formation of the district, is granitic. The hills along the sea coast, consist almost entirely of granite; on the east side of them, there is abundance of micaceous iron ore, and clay iron stone, a good deal of the former being magnetic; and there are extensive low rice grounds, along both banks of the river, the soil of which is chiefly stiff clay; the banks and bed of the river are also clayey, but occasionally a rocky stratum of laterite is seen. The first hilly undulations to the eastward, are composed of laterite, clay and sandstone; they gradually

increase in height, and are then believed to become granitic ;—among these hill streams tin, in great abundance and of good quality, is found ; hot springs are also found in different parts of the district.

Amongst the vegetable products, is much valuable timber of various kinds, and wood oil is obtained from a tree which is in great abundance. The *tse*, which makes an excellent black varnish, indestructible by moisture, is also a vegetable juice, caoutchouc trees are very numerous, and there are also a few gamboge trees ; the fruits are various, and many of them of good kind. There are several kinds of rice, which yield their crops almost without labour ; the fields being watered most plentifully by the rains.

But little fish is to be had either from the sea or rivers.

Climate. The climate seems to agree as well with strangers, as with the natives of the province ; and the changes which take place, are very gradual. The atmosphere is never close or oppressively hot ; and the temperature throughout the year, is very equable, the annual mean being about 80° in the shade ; and the greatest range of the thermometer, in the shade, about 30° ;—the lowest observed temperature being 65°, the highest 95°. The mercury in the barometer fluctuates but little, its greatest range being $\frac{5}{10}$ of an inch ; during the rains it is about 2 tenths lower, than in the dry months. The rainy season, which sets in either in April or May, is the pleasantest time of the year, and likewise the healthiest. The rains continue more or less heavy, until the latter end of September or October, and some years even till the middle of November ; when a slight change takes place, and some sickness occurs, but the east wind soon sets in, bringing with it health and freshness. The wind is strong during the months of December and January, it then abates and alternates with the sea breeze, either from the north-west or west, until the south-west monsoon again brings its floods. The greatest quantity of rain measured in any one year, was 220

inches in 1838 ;—the fall of rain during the south-west monsoon in 1831, was as follows.

	Total of each month.	
	Inches.	Tenths.
May	23	3
June	36	4
July	51	4
August	39	2
September	28	7
October	24	5

As regards internal communications, little can be said, there being no such thing as a road in the district, and the Tavoy river, affords the only means of intercourse.

The products of the country are principally rice, cotton, betel, ratans, and the fruit called the dorian.

The population is said to amount to about 50,000 souls, the greatest portion of whom, are distributed in straggling villages along the banks of the river, and in small creeks.

Tavoy, the chief town of the district, contains about 20,000 inhabitants, and is situated on the left bank of the river, 30 miles from the sea, in north latitude 14° 50′, and east longitude 98°. Its site is low, but slopes gently towards the river, by which all accumulations of stagnant or offensive matters are prevented. It includes an area of about three miles in circuit ; on the west it is flanked by the river, and on all other sides by paddy-fields, which are so low that at spring tides in the monsoon, they are but little above the level of high water. The highest point of the ground, on which the town stands, is 14 feet above high water mark.

The town is studded with fruit and other trees, of various kinds, under the shade of which the houses are built ; they are for the most part constructed of wood, raised 5 or 6 feet above the ground, and are all constructed after a fixed

model, from which little deviation is ever observed ;—light is carefully excluded, and air is only admitted through the thin partitions, which are usually of bamboo ; they are clean, neat, commodious and comfortable dwellings. Each family lives, detached from all others, with a small fenced spot of ground, surrounding the residence. The town, which during the rains, used to be almost under water, has lately been drained, and the roads, if such they could be called, which were quite impassable, have been laid with brick.

The inhabitants of the town consist of burmese, and taliens, with a good many chinese ; the latter set a good example of industry to the lazy burmese, but the few natives from Bengal and Madras, on the contrary, are extremely indolent. The burmese are a healthy people, stout, and well made, but under-sized, they are fair and cleanly in person, and apparently subject to but few diseases ; they are intelligent looking, and appear to be happy, are not quarrelsome, nor are they easily depressed or elated. They are quiet and orderly in their amusements, sober and well behaved, but are considered to be heartless, and indolent, and their morals do not bear scrutiny.

Their chief food consists of rice, eaten with gnapee, but numerous vegetables are also used, as they eat almost every leaf, root, and fruit, apparently with impunity, though colic is said occasionally to be the consequence ; every description of animal food is also eaten.

The dress is light, clean and gay looking, and although the love of gold is universal, they readily part with it, in presents to the poonghees, or priests; to feast their friends ; or to give *poœs,* a theatrical amusement in which they delight.

The person who happens to be in immediate authority amongst them, although he may have been a convict in irons the day before, is the object of the greatest respect and reverence. No mendicants are to be found, except the priests, who subsist upon the voluntary offerings of the pious and

charitable; they live in a state of celibacy, secluded from the world, in kyoungs or monasteries, and are the instructors of the young; almost every burman can therefore read and write.

Polygamy is not permitted, but divorce is easily procured.

Women, though obliged to work, whilst the men sleep, eat, or amuse themselves, are nevertheless not ill used. They have intelligent, though not handsome countenances, are cleanly in their dress, and are allowed free liberty to go about; they are prolific, and fond of their children, whom they suckle for three, four or even five years.

Diseases. The town, and surrounding country are remarkably healthy, the prevailing diseases being intermittent fever of a mild form, and catarrhs, chiefly occurring at the setting in of the south-west monsoon. About six years since, small pox carried off a great many of the inhabitants.

Cholera, also made its appearance about the same time, but was confined to the burmese.—They are averse to applying to Europeans for medical assistance, the cause of which is not understood, every encouragement has been held out to them, but hitherto they have not often availed themselves of it, and some of those who have applied for aid, were unfortunately in the advanced stages of disease, so that their confidence could not be gained, by effecting cures.

Military force. The detachment of troops, consists of about 40 European infantry and artillery, and 200 sepoys.

The fort, within which the barracks for the troops, and the various public buildings are situated, is in the centre of the town, extending one thousand yards from east to west, and eight hundred from north to south.—The walls are of brick, having an entrance at each face, and they are partly surrounded by a deep trench. The extent of the fort, bears the proportion of about one-third, to the rest of the town.

The European infantry barracks, occupy the best spot of ground, on a mound formed by the ruins of an old pagoda,

they are built of wood, not raised from the ground, but the floor is laid with bricks. It is an oblong building, with verandahs on the south, west, and north sides; its length 84 feet, breadth 51, and height 12 feet, and it is well ventilated, clean and capable of holding 30 cots; five small rooms are partitioned off, for married men.

Artillery barracks. On the same line, and a little detached, are the artillery barracks, similar in construction, but of smaller dimensions, being in length 63 feet, in breadth 48, and in height 12 feet. The gun-shed stands a little in front, and to the right, these and two guard rooms, being the only buildings on the mound.

Magazine. The magazine, is about 80 feet in front of the gun-shed, a public road which runs at the foot of the mound, separating it from the parade ground.

Hospital. On the opposite side is the hospital, which is a large and very good wooden building, raised 5 feet from the ground, and divided into a European and native ward, by a passage, in which the guard is stationed; this building is 104 feet in length, in breadth 41, and in height 11 feet; the European ward is capable of holding 20 patients, it is clean, well ventilated, and surrounded by a verandah 6 feet wide, the surgery is in one corner, and a room for hospital clothing in another. The native ward is also commodious, the verandahs on two sides, having been taken in, and it is capable of holding 40 patients; on the north side the verandah is partitioned off, for the use of the medical subordinates. There is a privy attached, but no dead house.

Native barracks and lines. The native barracks, or place of arms, are at the foot of the brick mound, on the left; the native lines being immediately in the rear, occupying a small piece of ground, which is rather too confined.

Officers' houses. The Officers' houses are at a short distance rom, and within sight of the barracks.

Wells are numerous, and the water is good.

The bazaar is almost adjoining the right of the barracks.

Health of troops. The small detachments stationed at Tavoy, have in general been remarkably healthy, and there has been nothing, as regards their state of health, to call for particular remark.

MERGUI.

General description. Mergui, the most southern of the Tenasserim provinces, formerly belonged to the Siamese, but it having been invaded by the Burmese in 1785, was given up to them, by a treaty of peace concluded between the two powers, in 1793, and the Burmese retained possession of it, till after the war with the British.

It is bounded on the north, by the province of Tavoy; on the east, by the Siamese territory; on the south, by the Pachan river; and on the west, by the bay of Bengal.

Mergui Archipelago. The Mergui archipelago, consisting of numerous small islands on the coast, belongs to this province.

Appearance of the country. The surface of the country is mountainous, and much intersected by streams; two principal ranges of hills, varying generally, from four to fifteen hundred feet in height, traverse the centre of the province, from north-east to south-west, running parallel with each other, and separated only by the river Tenasserim, which winds through the valleys between them, until it arrives at the old town of Tenasserim, where it is joined by a stream from the eastward, called the little Tenasserim; it then pursues a westerly direction, passing through a gap in the range of hills, and reaching the low land bordering the coast, divides into several channels, which flow into the bay of Bengal.

The line of coast is very irregular, and for several miles inland, but little raised above the level of the sea; it consists for the most part, but particularly to the southward of Mergui, of low uncultivated mangrove islands, here and there however,

small plains, of fertile land adapted for the growth of rice are found, with occasional hills of moderate elevation, upon which there are gardens of the arcca palm, and plantain.

The whole face of the country, unless where cleared for cultivation, is densely clothed with luxuriant vegetation, and towards the interior, and in the more elevated situations upon the coast, forest trees arrive at the largest size. After passing the mangrove limits, towards the interior, a gradual elevation of the surface is perceptible, and the country becomes mountainous, even to the bank of the river. After passing the town of Tenasserim, situated about 38 miles east of Mergui, at the

Tenasserim river.

junction of the rivers, it becomes suddenly changed, the river flowing through an alluvial valley, varying in breadth from 5 to 20 miles, having a horizontal or slightly undulating surface; the banks are here generally very high, and nearly perpendicular, in some parts however, the course of the river is through low lands, and there are many islands in its bed, giving to the scenery a picturesque character. The channel in some situations, is so narrowed as to occasion rapids, which are passed with difficulty, at certain periods. The river is navigable for large boats up to the town of Tenasserim, but beyond that, even those of small size, cannot proceed far, without much difficulty. The influence of the tide, is felt for about 10 miles above Tenasserim.

Climate.

The climate of Mergui is agreeable, and remarkable for its salubrity, the heat during the months of March, April, and May, being moderated by the land and sea breezes; the latter usually commences to blow, between the hours of 9 and 12, in the day, and continues till 6 or 8 in the evening, soon after which the land breeze sets in, and continues with delightful coolness, till morning—During the rainy months, from June to the end of October, the sun is seldom visible, and the air is in consequence so cool, that many persons prefer this season to any other, as there are frequent intervals of fine weather. The months of November, December, January and February, are cool, and Europeans like the comfort of a blanket at night. During

the year 1840, from observations taken three times daily, the extreme variation of temperature, was found to be only 25°, the highest range of the thermometer, in a room about 100 feet above the level of the sea, having been 93° at 2 P. M., in April, and the lowest 68°, in November and December, at sunrise; though the Mercury occasionally falls below this, as in January 1842, when it was down to 63° at sunrise. Northerly winds, veering from east to west, prevail from December till March, during the remainder of the year, they are from the south-west; in the rainy season, violent storms of wind and rain, from the N. W. occur, and continue for many days together. Thunder storms, accompanied by torrents of rain, are of frequent occurrence in the months of April and May, and also at the change of the monsoon, in October and November. The transitions in the state of the weather, are often observed to be very regular, in their recurrence;—for example, it frequently commences raining at a certain hour in the day, continues perhaps for several hours, and is succeeded by an interval of fine weather, this occurring several days in succession; when a sudden and complete change may occur, and storms of rain, which previously came on *daily* in the *evening*, now happen at *noon*, or, some other stated period, of the 24 hours. It also often happens, that storms recur during several successive days, but on each occasion, an hour earlier or later, than the previous one.

The most obvious peculiarity of the climate, is the great humidity of the astmosphere, dew is deposited in great quantity, during the north-east monsoon, and volumes of misty clouds, obscuring the sun's rays, which are not dispersed before 9 or 10 o'clock, may be also seen hanging over the face of the country, especially in the interior. In the year 1840, there were 207 days upon which rain fell, and no month passed without rain, in which respect, Mergui is favoured beyond the other parts of this coast; and the climate, is thereby rendered more agreeable, and healthy. About 180 inches of rain fall annually.

Diseases of the country.

With regard to the diseases of the province, they are, with few exceptions, very mild. The most common

complaints among Europeans, and particularly those who have been some time in the country, are affections of the mucous membrane of the bowels, which seems to predispose to attacks of subacute inflammation, in the form of gastro-enteritis, diarrhœa and dyspeptic complaints; but whether they are occasioned, as has been thought, by the impurity of the water, which is much impregnated with the muriatic salts, or by the defective supply of animal food, neither mutton nor good beef being procurable, has not been determined, the probability is, however, that both these circumstances influence the health of strangers resident on this coast.

For Europeans debilitated by the climate, or diseases of India, the place offers several advantages, and in many cases, a residence here of 6 or 8 months, would it is believed, supersede the necessity of a return to Europe.

Health of native troops.

The native troops are less healthy than the Europeans, and the proportion of sick, is usually greater than in India;—they are particularly liable to skin diseases, also to diarrhœa, rheumatism, remittent and intermittent fevers, beriberi, atrophia and various forms of dyspepsia, the three last mentioned diseases often proving fatal, or rendering a return to their native climate requisite. A peculiar form of ulceration, which affects both Europeans and natives, is very common, it breaks out in different parts of the body, becomes as large as the palm of the hand, and spreads in one direction, as it heals in another; the sore presents a white sloughy bottom, with ragged edges, surrounded by a ring of a reddish or copper colour, and is attended with great pain and emaciation. Some cases of this disease have been cured, by a course of the arsenical solution, with sarsaparilla.

Government of the country.

The commissioner of the provinces, usually visits Mergui four times a year, for the purpose of holding a sessions, and hearing appeals, but the immediate charge of the province, is in the hands of one of the assistants, to the commissioner, who has a court for deciding police and other cases,

of minor importance, in which he is assisted by the *tsik-kai*, or native magistrate.

The province is divided into several districts, each of which is under a *thoo-gyee*, or head constable, who collects the revenue, and conducts the business of the villages in his charge.

The villages are thinly scattered, and consist usually of from 20 to 50 houses; the spot being selected for some local advantage, and three or four houses are always clustered together for mutual protection.

Habitations of the natives. Among the burmese, one family only occupies each house, but some of the kureens are social, many families, consisting perhaps of 50 or 100 individuals, live under the same roof.—The house consists of a long room, with a common central passage, running from end to end, on each side of which are apartments, separated by bamboo mats, but opening towards the public passage; the villages, and houses are almost invariably built upon the banks, or within a short distance of some navigable stream, with which the country is intersected in all directions.

Population. The population of the province is about 30,000, and from the returns of the village authorities, the births it appears, exceed the deaths, in the proportion of 560 to 256, or more than double.

It is scarcely possible to enter the country, unless by a few beaten tracks, or by water, from the impenetrable nature of the jungle, and it has consequently, been but imperfectly explored.

Geological features. The more westerly islands of the Mergui archipelago, are composed entirely of the primary crystalline formations, chiefly varieties of granite and porphyry, whilst those near the main land, apparently belong to the transition series, and consist of sandstone, gray wacke, and conglomerate; and in the composition of the latter, iron forms an important constituent. The geological features, of the main land, near the

shore, do not differ materially from the last mentioned islands; but at a distance of from 15 or 20 miles in the interior, the secondary stratified formations predominate,and of these,the old red sandstone is most common, the town of Tenasserim being built on a rock of this nature. On ascending the river, the formations are seen to belong to the tertiary series, having often the character of fresh water deposits, found lying upon an extensive horizontal bed, of reddish, sandy marl ; in many parts, the river having perpendicular banks, 20 or 30 feet high, through which thin beds of blue marl, and gravel are interspersed ; and towards low water mark, there are frequent beds of argillaceous, and nodular iron ore. Several large beds of lateritious, or ferruginous clay, exist along the banks of the river, having the usual peculiarity of laterite, that of hardening by exposure to the air, and it is used by the burmese in constructing their large idols.

Coal. The coal lately discovered in this valley, appears to occupy a very extensive tract, having been already found exposed on the surface, in five distinct localities ; from experiments which have been made, it would seem to be well adapted for steamers, it has a low specific gravity, burns with a brilliant white flame, and leaves but a very small proportion of ashes ;—it is believed to be what Jamieson calls, "foliated or cubical coal," and belongs to the independant coal formation of Werner.

In mineralogy several important discoveries have been made, the chief of which are tin and iron ;—copper ores have also been found, in small quantity, and gold is scantily distributed in the beds of the mountain streams, particularly those issuing from the eastern range. The siamese occasionally bring it down to Mergui for sale, from a place which is described, as being ten days journey inland from Tenasserim, it is procured by washing. Ores of manganese and iron, exist in considerable abundance.

Hot springs. The following account of the thermal springs, on the Palouk river, between Mergui and Tavoy, is given by Captain MacLeod.

"The springs are situated up the Palouk river, which takes its rise on the western side of a high range of mountains, running along the western, or right bank of the river Tenasserim; at its mouth, which is about 50 miles from Mergui, it is about 700 feet wide, but narrows higher up, towards the village of Palouk, and soon after passing the village, it becomes in places very shallow, and a succession of rapids and falls are met. Having ascended as far as I could in a small canoe, which was dragged over rapids, I performed the latter part of the journey by land, in consequence of the river becoming too shallow, and the rapids or falls getting stronger; in returning however, I descended the stream, the whole way, on a small bamboo raft. The hills, which from Palouk, range along the sides of the river, are by no means high, but are covered with thick jungle and high trees; there are two spots where the springs show themselves, one immediately on the right bank of the river, (here about 100 feet wide,) with some in the river itself, and the others about two or three minutes walk to the northward, inland; around the former a mound of circular stones, of various sizes, was caked together with hardened clay, having the appearance of stone, the whole of this mound had externally a black appearance, and in some places, small circular basons had been formed, by springs now dry. All the springs now flowing, are close to the waters edge, or in the water; they issue from under the rocks, through a sandy bottom, the orifices are very small, and not above two inches deep, and a thermometer being dipped into the hottest, rose to 196° Far. Their height above the sea I estimate at about 200 feet. The springs a little inland, are larger and deeper, they are situated in a small open space, and there must be about 30 or 40 bubbling up, along a line of about 50 feet by 20, the largest being at the northern extremity. I took the water from two of the largest springs, one about three and half feet deep, and two feet in diameter, and the other about half that size, in both the thermometer indicated a heat of 194°, the ground at the bottom, is of a dark shining colour, here and there resembling the colour of brick-dust, the trees

and grass grow luxuriantly around, and in the open space the marks of hogs,deer, &c. are seen—The springs are situated in about 13° 20″ north latitude, and 90° 19″ east longitude. Though vapours rise from them,no disagreable smell pervaded the atmosphere, nor had the water a very disagreeable taste.—There are other springs, in a north-west direction from these, at a place called Pe, and there is nothing in this neighbourhood that I know of, indicating volcanic agency." In reference to the latter remark however, it may be observed, that Banen island in the bay of Bengal, forms the northern extremity of a great volcanic band, including Sumatra, Sunda, the Malacca and the Phillipine islands, completely surrounding the Malayan peninsula seaward; many volcanoes along this tract, are even now in active operation, among which is Banen island; and at the time of a violent earthquake, which occurred about three years since at Ava, the shock was plainly felt at Mergui, and other places on the Tennaserim coast. A rough analysis of the water of these springs, showed them to be strongly impregnated with sulphuretted hydrogen, and to contain also, a small proportion of iron, and carbonate of lime, the latter substance, being deposited in a tufaceous form, upon the surface over which the water runs.

Botanical productions.

Collections have been made in botany, both by Dr. Helfer, and Mr. Griffiths, but comparatively little has however yet been done, and an extensive field is still open for research. Couchouck, tannin, and gums, are abundantly produced; from the dammar tree, a resin, applied to various purposes is obtained; and from the wood oil tree, a material in great quantity, to the amount sometimes of 5 or 6 gallons from a single tree, which is used by the burmese for making torches, and instead of paint, to preserve timber; and which from its abundance, is exceedingly cheap. Bamboos, and cotton trees of several kinds,are plentiful, and also the *theugan* " hopea adorata", an excellent timber tree, used for building. Ratans of several kinds abound; palms occupy a very conspicuous place, and among them the attap palm " cocos-nypa", is perhaps the most useful; from it toddy and sugar are obtained, and its leaves are used for roofing houses, for

which purpose they are well adapted, forming an impervious defence against heavy rains, and from being furnished with a silicious coating, it does not readily decay, lasting three years. The "cesalpinea sappan," the wood of which is used as a dye, grows in great abundance in the interior, and is a chief article of export, from the port of Mergui. Of

Fruits. fruit trees, the principal are the doorean, jack, mangosteen, mango, papaya, cocoanut, areca, guava, mulberry, cashew, lime, orange and pumplemose;—there are besides many indigenous fruit trees in the forests, some of which it is believed, might be much improved by cultivation. The country also, produces rice of several kinds, plantains, yams, sweet-potatoes, chillies, sesamum, black pepper in small quantities, tobacco, pine-apples, melons, gourds and cucumbers.

Animals. The animals met with, are the elephant, tiger, rhinoceros both double and single horned, wild cattle, the buffaloe, bear, hog, elk, deer of several kinds, the wild cat, monkeys and squirrels of several varieties, the rat, porcupine, armadillo and sloth. Dr. Helfer says in one of his papers, "I have had an opportunity of ascertaining positively, the existence of the "tapirus malayanus", within the British boundaries, in latitude 11° 37″, in the province of Mergui, though I have not been so fortunate as to obtain a specimen of it, it is well known to the natives, who call it the great pig." Wolves have been reported to be seen, in the mountains in the interior, nevertheless their existence seems somewhat doubtful, as Dr. Helfer observes "that the genus canis, has no representative in the countries trans-Burhampooter, so far as I am aware." It has been said that the tigers on this coast never attack man, one or two melancholy instances, have however occurred lately, proving the contrary to be the case, but such occurrences are undoubtedly very rare,and the facility with which they obtain their prey, such as deer and other animals, may account for this circumstance. The rhinoceros is common, and much dreaded by the natives.

Reptiles. Saurian reptiles are numerous, the chief are alligators, iguanas, a large brown lizard, very similar to the

latter, and a large spotted lizard, frequently found in the roofs of houses, called by the natives "Touk-tai", the small house lizard, also several varieties of the chameli-on lizards, or blood-suckers. Ophidian reptiles, both land and water species, abound, they are not generally venomous. Of the chelonian reptiles, turtles are most common, and at a certain season,they resort in great numbers to particular sand-banks on the river, where they deposit their eggs. These banks are rented by Government. Tortoises are also common; and three species of the batrachian family are seen, one of which is the chunam frog of India.

Birds. In ornithology some collections have been made, the feathered tribes of the province, nearly all migrate, for a shorter or longer period ; few are remarkable as song-sters, but the plumage of several is very beautiful. Of crows there are two kinds, very similar though not precisely like those of India ; jungle fowl, of the same type as the common domestic fowl, but smaller, are very plentiful in the woods, and afford abundance of amusement to the sportsman ; after the rice harvest, they are in excellent condition, and scarcely inferior in flavour, to the English pheasant. Pea fowl, black, brown and argus pheasants, a species of partridge, and quails, are pretty common;—a large kind of duck, which rests upon trees, teal of two kinds, snipe, golden plover, and a small gray duck are also abundant.

Insects. Insects are met in great variety, and splen-dour, the luxuriance of the vegetation, together with the heat and moisture of the climate, being conducive to their propo-gation ; musquitoes, sandflies, eyeflies, and ants of various kinds, are not less troublesome than abundant;—of ants there are it is believed, not less than 100 kinds, of bees, hornets, and wasps, there are also several varieties, one of the latter is particularly troublesome, from the circumstance of its appear-ing only after sunset, and like the moth, being attracted by light, it continues fluttering about the candle or lamp till burnt, when becoming irritated, it is apt to sting persons near.

The coleopterous insects, are especially remarkable for their number and beauty.

Small brown scorpions and centipedes, are very common.

Among the arachnidæ is found the tarantula, and also a beautiful large spotted spider.

Town. Mergui or "Byite", stands on an island of the same name, at the principal mouth of the Tenasserim river, which opens into the sea about two miles to the north, and about one to the south of the town; it is in north latitude 10° 36″, and east longitude 98° 30″. The harbour admits vessels of 18 feet draught of water, which can anchor close to the wharf, and the tide rises 17 feet in the springs, the banks near the town are hard gravel, but towards the sea, mud flats extend some distance, a sand bank of some considerable length showing itself at low water. The town consists of about 1500 native houses, besides the barracks for the troops, and other public buildings.

Barracks and hospitals. The barracks stand on the summit of a small hill, around which is the town, and the houses of the officers are situated upon open ground, on its north-western face, all the buildings are raised upon posts.

Native houses. The native houses, generally consist of two rooms and a small verandah, the flooring, is made of split bamboos, and elevated about eight or ten feet from the ground. The sides and partitions of the houses, are either of the leaves of the neepa palm, or of a large description of reed, which being soaked in water to prevent insects attacking it, it is then opened out, and wove into mats.

Officers houses. The officers houses are either constructed of the materials above mentioned, or with sides and floorings of plank; the European and native barracks and hospitals, are planked. The small hill upon which they stand, is about 100 feet high, of an oblong form, having on its western or sea face a pretty steep ascent, but on the other sides a gradual slope; and from its summit is a fine view of the sea, and the islands forming the opposite shore, about a mile distant seaward.

Country in the vicinity of the town.

The ground in the vicinity of the town is undulating, covered with a low jungle, with here and there bare spots of pasturage, and on the south and eastern sides, are salt and fresh water swamps, through the centre of which runs a large nullah, which enters the river about half a mile above the town ; the swamps are covered by a low brush wood of mangrove trees, and other plants, which thrive only within reach of salt water.

The health of persons residing in this vicinity, does not appear to be injured thereby. About half a mile north-east of the town,and 5 or 600 yards from the river,is a fine open rising ground, in every respect well adapted as a site for barracks, which it is to be regretted was not originally selected for that purpose.

The prevailing soil near the town, is a reddish marly loam, of from 3 to 20 feet in thickness, lying upon a substratum of gravel,composed of quartz and felspar pebbles, and on the north side,within a few minutes walk of the town,are two freshwater tanks, or lakes, which in the driest seasons, are four feet deep.

Inhabitants of the town.

The town has nearly 8,000 inhabitants, consisting of people of various nations; such as english, americans, french, portuguese, chinese, burmese, siamese, malays, bengalees, madrasites and cingalese ;—and there are two american baptist missionaries, and one french priest, belonging to the roman catholic mission of siam, established here.

Troops.

The troops consist of one company of native infantry, and 30 Europeans, commanded by a captain and subaltern respectively.

Trade.

Mergui is tolerably supplied with articles of grocery, and other necessaries, from Calcutta, Moulmein and Penang, the principal trade being carried on by chinese, and the best artizans, also belong to that nation. There is a post office establishment here, and opportunities for sending letters to Moulmein and other places, by a government vessel, generally occur about once in six weeks.

Markets. Excellent bread, butter and milk, are to be had, at a little above the Madras prices, the market is also well supplied with vegetables ; beef, though of an inferior description, and good pork can be had occasionally,but mutton is not procurable ; geese, ducks and fowls, are plentiful—fish, both fresh and salted, is in great variety and abundance, and the pomfret in particular is excellent, crabs, oysters, and prawns, are also to be procured, in the season.

Exports. The chief exports are, sappan-wood, neepa palm leaves, or attaps for roofing, rattans, yams, gnappee, dried fish, ivory, tortoise shell, sea slugs, shark's fins, and edible nests.

Ivory is chiefly brought to Mergui, from the interior, by Siamese hunters

Seelongs, or natives of the Islands. The *Seelongs*, a miserable race of savage fishermen who inhabit the neighbouring islands, have no fixed habitations, and live chiefly in their boats in which they rove from island to island in quest of food, they gain a precarious livelihood by collecting tortoiseshell and pearls, some of the latter being of good size and quality ; they also gather sea slugs, honey and some other trifling articles. This singular race of people are almost amphibious.

Edible nests. Edible nests,are exported principally to Penang and Singapore, for the chinese market;—they are the nest of a small swallow,and composed of a glutinous substance, which when cooked, has very much the taste of vermicelli. They are found in caverns in several of the islands on the coast, adhering to the rock. Government derives a revenue from the sale of them, of about 4,000 rupees per annum ; nests of good quality selling for very high prices.

Concluding remarks. Mergui offers great advantages to settlers, the soil being exceedingly fertile, and grants of land may be obtained on liberal terms; plantations of cocoanut,and areca trees, would probably yield the most certain profit, the climate being favorable to their growth ; coffee, cloves, and nutmegs, would also, it is believed, succeed well.

REMARKS ON THE GENERAL TABLES.

Remarks on the general tables of disease.

The usual tables of disease as for the nine preceding divisions of the army, are appended. Table No. 1 for Europeans, includes the sick of H. M.'s regiment, and the Hon. Company's Artillery at Moulmein, and also of the small detachments at Tavoy and Mergui; it shews the amount of sickness and mortality, from the most important diseases each half year, during the period of ten years, from 1829 to 1838 inclusive, along with the annual per centage of sick to strength, of deaths to sick treated, and of deaths to strength; the average of these, as shewn in the abstract table No. 2., being 143·488, 2·606, and 3·739 respectively.

The admissions, but especially the mortality, were greatly increased in 1834, owing to the sickly state in which H. M.'s 62d regiment, arrived from Masulipatam that year; and amongst whom dysentery and fever, were remarkably frequent and severe.

In the abstract table No. 2, it will be observed, that the total admissions have been 13,046, and 340 deaths have occurred, in an aggregate strength of 9092 men. The most prevalent diseases have been *fevers, dysentery, diarrhœa, hepatitis, thoracic diseases, rheumatism and syphilis*; and the most fatal have been *dysentery, fever, hepatitis and thoracic diseases*; the per centage of admissions and deaths from each of which is noted in the table.

It is worthy of remark, that except in 1838, the column under the head cholera, is nearly blank.

The corresponding tables No. 3 and 4, for the native troops, comprise the sick of the military at Moulmein, and of the detachments at Tavoy and Mergui. The total number treated has been 9,921, and 204 men have died, from an aggregate strength of 14,716. The average per centage of sick to strength, has been 67·416, of deaths to sick treated 2·056, and of deaths

to strength 1·386. The most numerous admissions have been from *fevers, rheumatism, bowel complaints and syphilis ;* and the mortality has resulted principally from *bowel complaints, fever, rheumatism, and thoracic diseases.* During these ten years, only seven cases of cholera are recorded, and one death.

The tables No. 5 and 6, for European and native sick respectively, are drawn up similarly to those for the preceding reports; they exhibit the admissions and deaths from the specific diseases, in each of the various classes, during a period of five years, from 1834 to 1838 inclusive ; the total sick from each class, is also shewn with the mortality, and the per centage of admissions to strength, and of deaths to sick treated.

Amongst the European troops, table No. 5, the most numerous admissions have been from the classes of *fevers, abdominal complaints, diseases of the lungs, venereal and rheumatic affections, and diseases of the brain ;* and the most fatal have been *fevers, bowel complaints,* especially *dysentery,* and *diseases of the lungs.* During these five years the per centage of sick to strength, has been 149·326, of deaths to sick treated 2·966, and of deaths to strength 4·430·

In the table No. 6, for the native troops, the greatest number of admissions it will be seen, have been from the classes of *fevers, rheumatism, bowel complaints, cutaneous and venereal affections, and diseases of the lungs ;* and the greatest mortality has been occasioned by *fevers, bowels complaints, rheumatism and diseases of the lungs.*

The tabular statements No. 7, 8, 9 and 10, exhibit the proportion and per centage of the admissions and deaths, from the most important diseases, and the principal classes of disease, both amongst the European and native troops, and give at one view, much interesting information on several points.

H. M.'s Regiment, and the H. C.'s Artillery at Moulmein, contrasted.

Table No. 11 and 12.	H. M.'s Regiments. Aggregate strength 9037. From 1829 to 1840, exclusive of 1834. Admitted.	Died.	Per centage of sick to strength.	Per centage of deaths to sick.	H. C.'s Artillery. Aggregate strength 886. From 1829 to 1840, exclusive of 1831, 32 and 1835. Admitted.	Died.	Per centage of sick to strength.	Per centage of deaths to sick.
Fevers	3706	56	41 ·009	1 ·511	170	5	19 ·187	2 ·941
Cholera	4	1	0 ·044	25 ·000	0	0	0	0
Diarrhœa	979	10	10 ·833	1 ·021	165	3	18 ·623	1 ·818
Dysenteria acuta	902	71	9 ·981	7 ·871	74	4	8 ·352	5 ·405
,, chronica	361	26	3 ·994	7 ·202	21	1	2 ·372	4 ·761
Hepatitis acuta	303	15	3 ·352	4 ·950	26	1	2 ·934	3 ·846
,, chronica	406	12	4 ·492	2 ·955	38	1	4 ·288	2 ·631
Catarrhus	628	4	6 ·949	0 ·636	33	1	3 ·724	3 ·030
Hæmoptysis	3	0	0 ·033	0 ·000	0	0	0	0
Asthma	10	2	0 ·110	20 ·000	6	2	0 ·677	33 ·333
Phthisis pulmonalis	21	9	0 ·232	42 ·857	3	2	0 ·338	66 ·666
Pneumonia	65	7	0 ·719	10 ·769	1	0	0 ·112	0 ·000
Apoplexia	4	4	0 ·044	100 ·000	1	1	0 ·112	100 ·000
Epilepsia	10	0	0 ·116	0 ·000	4	0	0 ·451	0 ·000
Paralysis	23	2	0 ·251	8 ·696	1	0	0 ·112	0 ·000
Amentia	5	0	0 ·055	0 ·000	4	0	0 ·451	0 ·000
Mania	9	0	0 ·099	0 ·000	0	0	0	0
Ebrietas	17	0	0 ·188	0 ·000	7	0	0 ·790	0 ·000
Delirium Tremens	42	5	0 ·464	11·904	18	0	2 ·031	0 ·000
Anasarca	22	5	0 ·243	22 ·727	0	0	0	0
Ascites	6	3	0 ·066	50 ·000	0	0	0	0
Rheumatismus acutus	330	0	3 ·651	0 ·000	37	0	4 ·175	0 ·000
,, chronicus	231	3	2 ·556	1 ·298	54	0	6 ·094	0 ·000
Syphilis &c	1329	3	14 ·706	0 ·225	149	1	16 ·817	0 ·671
Morbi oculorum	157	0	1 ·737	0 ·000	16	0	1 ·805	0 ·000
,, cutis	100	0	1 ·106	0 ·000	8	0	0 ·902	0 ·000
Other diseases	3749	15	41 ·486	0 ·400	409	5	46 162	1 ·222
Total	13,423	253	148 ·522	1 ·884	1245	27	140 ·519	2 ·168

Per centage of deaths to strength, 2.799. H. H.'s Troops.

Per centage of deaths to strength, 3·047. H. C.'s Troops.

TENASSERIM COAST.

Table No. 1.—Return of sick of the European Troops, exhibiting the half yearly Admissions and Deaths, from the principal diseases, and those which have been either Epidemic or Endemic, during the period of ten years, from 1829 to 1838.

Years.			Diseases.																													
			Admissions and deaths.	Apoplexy.	Atrophy.	Beriberi.	Cholera.	Cutaneous diseases.	Delirium Tremens.	Diarrhœa.	Dysentery.	Elephantiasis.	Fever ephemeral.	„ continued.	„ intermittent.	„ remittent.	Guinea Worm.	Hepatic diseases.	Insanity.	Leprosy.	Ophthalmy.	Rheumatism.	Small pox.	Syphilis &c.	Thoracic diseases.	Ulcer phagedenic.	Wounds & injuries.	Other complaints.	Strength each year.	Annual per centage of sick to strength.	Annual per centage of deaths to sick treated.	Annual per centage of deaths to strength.
1829	Admitted.	1st half.	747	0	0	0	0	0	0	25	61	0	0	63	170	107	0	25	0	0	17	12	0	6	41	0	90	130	994	154 ·766	2 ·806	4 ·343
		2d „	714	0	0	0	0	0	0	18	75	0	0	91	213	40	0	24	1	0	12	13	0	7	72	0	51	94				
	Died.	1st half.	17	0	0	0	0	0	0	2	5	0	0	1	0	3	0	0	0	0	0	0	0	0	1	0	1	4				
		2d „	21	0	0	0	0	0	0	0	4	0	0	5	5	3	0	2	0	0	0	1	0	0	4	0	0	0				
1830	Admitted.	1st half.	765	1	0	0	0	0	0	21	97	0	0	95	168	44	0	33	0	0	11	20	0	20	70	0	94	91	989	153 ·286	1 ·715	2 ·628
		2d „	751	0	0	0	0	0	0	23	87	0	1	114	125	17	0	43	1	0	15	22	0	47	35	0	95	126				
	Died.	1st half.	10	1	0	0	0	0	0	0	2	0	0	2	1	0	0	1	0	0	0	1	0	0	1	0	0	1				
		2d „	16	0	0	0	0	0	0	1	4	0	0	2	2	1	0	1	0	0	0	1	0	0	3	0	0	1				
1831	Admitted.	1st half.	720	0	0	0	0	0	0	11	79	0	0	138	63	17	0	46	0	0	11	22	0	27	24	0	125	157	942	145 ·116	1 ·682	2 ·441
		2d „	617	0	0	0	0	0	0	47	69	0	1	99	62	17	0	26	2	0	5	35	0	35	35	0	98	126				
	Died.	1st half.	15	0	0	0	0	0	0	0	6	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	2	3				
		2d „	8	0	0	0	0	0	0	1	2	0	0	0	0	0	0	4	0	0	0	0	0	0	1	0	0	0				
1832	Admitted.	1st half.	664	0	0	0	2	0	0	17	119	0	3	122	31	5	0	30	1	0	11	15	0	88	8	0	81	131	980	137 ·448	2 ·449	3 ·333
		2d „	683	1	0	0	0	0	0	18	151	0	3	112	22	6	0	32	2	0	7	14	0	49	30	13	83	140				
	Died.	1st half.	16	0	0	0	1	0	0	0	8	0	0	0	0	0	0	4	0	0	0	0	0	0	2	0	0	1				
		2d „	17	1	0	0	0	0	0	0	3	0	0	9	0	0	0	2	0	0	0	0	0	0	0	2	0	0				
1833	Admitted.	1st half.	427	1	0	0	0	0	0	29	39	0	8	83	12	2	0	8	0	0	6	8	0	37	6	0	64	124	858	95 ·104	2 ·818	2 ·680
		2d „	389	0	0	0	0	0	0	23	43	0	6	75	13	3	0	6	0	0	13	8	0	25	6	0	63	105				
	Died.	1st half.	12	1	0	0	0	0	0	0	3	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	5				
		2d „	11	0	0	0	0	0	0	1	4	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	1	1				
1834	Admitted.	1st half.	293	0	0	0	1	3	0	15	24	0	5	38	3	4	0	10	0	0	10	9	0	40	6	0	37	88	620	184 ·032	6 ·923	12 ·741
		2d „	818	0	0	0	5	0	0	62	184	0	4	56	231	11	0	8	0	0	4	17	0	26	13	0	40	187				
	Died.	1st half.	10	0	0	0	0	0	0	0	5	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0	0	2				
		2d „	69	0	0	0	2	0	0	2	37	0	0	0	5	4	0	0	0	0	0	1	0	1	3	0	0	14				
1835	Admitted.	1st half.	62	0	0	0	0	0	6	4	5	0	1	0	0	1	0	1	0	0	0	8	0	7	2	0	9	18	457	57 ·330	0 ·763	0 ·437
		2d „	200	0	0	0	0	3	11	20	10	0	0	1	4	0	0	4	0	0	9	7	0	14	14	0	32	71				
	Died.	1st half.	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0				
		2d „	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
1836	Admitted.	1st half.	667	0	0	0	0	11	25	61	58	0	1	33	8	3	0	23	3	0	9	25	1	79	46	1	78	202	918	134 ·858	2 ·093	2 ·723
		2d „	571	0	0	0	0	5	8	99	36	0	3	101	8	2	0	11	0	0	5	25	1	41	26	0	45	152				
	Died.	1st half.	8	0	0	0	0	0	1	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1				
		2d „	17	0	0	0	0	0	0	0	10	0	0	2	0	0	0	0	0	0	0	0	0	0	3	0	1	1				
1837	Admitted.	1st half.	583	0	0	0	0	2	0	68	42	0	6	148	1	6	0	19	0	0	4	29	9	33	12	1	66	146	891	151 ·964	2 ·141	3 ·254
		2d „	771	0	0	0	2	4	0	76	73	0	7	183	3	4	0	34	0	0	2	49	0	65	48	2	59	160				
	Died.	1st half.	14	0	0	0	0	0	0	1	6	0	0	2	0	0	0	1	0	0	0	2	0	1	0	0	1	0				
		2d „	15	0	0	0	0	0	0	3	5	0	0	1	0	0	0	2	0	0	0	0	0	0	2	0	0	2				
1838	Admitted.	1st half.	1390	1	0	0	24	5	4	165	76	0	6	349	6	0	0	90	0	0	17	95	1	136	59	2	74	280	1493	170 ·395	2 ·319	3 ·951
		2d „	1151	0	0	0	2	6	2	95	86	0	5	141	8	20	0	68	1	0	30	117	0	121	57	0	94	298				
	Died.	1st half.	42	1	0	0	14	0	1	1	10	0	0	9	0	0	0	1	0	0	0	0	0	1	2	0	0	2				
		2d „	17	0	0	0	0	0	0	1	5	0	0	3	0	1	0	4	0	0	0	0	0	1	0	0	0	2				

TENASSERIM COAST.

Table No. 2.—Europeans—Abstract of the preceding Returns, shewing the total number of admissions and Deaths &c. from 1829 *to* 1838.

	Admissions and deaths.	Apoplexy.	Atrophy.	Beriberi.	Cholera.	Cutaneous diseases.	Delirium Tremens.	Diarrhœa.	Dysentery.	Elephantiasis.	Fever ephemeral.	,, continued.	,, intermittent.	,, remittent.	Guinea Worm.	Hepatic diseases.	Insanity.	Leprosy.	Ophthalmy.	Rheumatism.	Small pox.	Syphilis &c.	Thoracic diseases.	Ulcer phagedenic.	Wounds & injuries.	Other Complaints.
Aggregate strength. 9092																										
1829 to 1838. Admitted. 1st half.	6,318	3	0	0	27	21	35	416	600	0	30	1069	462	189	0	285	4	0	96	243	2	473	274	4	718	1367
2d ,,	6,728	1	0	0	9	18	21	481	804	0	30	979	689	120	0	256	7	0	102	307	1	433	336	15	660	1459
Total..	13,046	4	0	0	36	39	56	897	1404	0	60	2048	1151	309	0	541	11	0	198	550	3	906	610	19	1378	2826
Died. 1st half.	145	3	0	0	15	0	2	4	50	0	1	18	1	4	0	11	0	0	0	3	0	2	8	0	4	19
2d ,,	195	1	0	0	2	0	0	9	75	0	0	23	12	9	0	18	0	0	0	3	0	2	16	2	2	21
Total..	340	4	0	0	17	0	2	13	125	0	1	41	13	13	0	29	0	0	0	6	0	4	24	2	6	40
Average per centage of sick to strength.	143·488	0·043	0	0	0·395	0·428	0·615	9·865	15·442	0	0·659	22·525	12·659	3·398	0	5·950	0·120	0	2·177	6·049	0·032	9·964	6·709	0·208	15·156	31·082
Do. of deaths to sick treated.	2·606	100·0	0	0	47·222	0	3·571	1·449	8·903	0	1·666	2·001	1·129	4·207	0	5·360	0	0	0	1·090	0	0·441	3.934	10·526	0·435	1·415
Do. per centage of deaths to strength.	3·739	0·043	0	0	0·186	0	0·022	0·142	1·374	0	0·011	0·450	0·142	0·142	0	0·318	0	0	0	0·065	0	0·043	0·263	0·022	0·065	0·439

TENASSERIM COAST.

Table No. 3.—Return of sick of the Native Troops, exhibiting the half yearly Admissions and Deaths, from the principal diseases, and those which have been either Epidemic or Endemic, during the period of ten years, from 1829 to 1838.

Years.			Admissions and Deaths.	Apoplexy.	Atrophy.	Beriberi.	Cholera.	Cutaneous diseases.	Delirium Tremens.	Diarrhoea.	Dysentery.	Elephantiasis.	Fever ephemeral.	" continued.	" intermittent.	" remittent.	Guinea Worm.	Hepatic diseases.	Insanity.	Leprosy.	Ophthalmy.	Rheumatism.	Small pox.	Syphilis &c.	Thoracic diseases.	Ulcer phagedenic.	Wounds & injuries.	Other complaints.	Strength each year.	Annual per centage of sick to strength.	Annual per centage of deaths to sick treated.	Annual per centage of deaths to strength.
1829	Admitted.	1st half.	1294	1	10	0	0	0	0	51	52	0	0	14	621	38	0	5	2	0	6	128	0	81	6	0	86	190	1923	103 ·640	1 ·756	1 ·820
		2d "	699	0	0	0	0	0	0	15	30	0	0	1	351	4	0	2	0	0	2	45	0	21	2	0	26	200				
	Died.	1st half.	24	0	1	0	0	0	0	2	2	0	0	0	5	0	0	0	0	0	0	3	0	1	0	0	2	8				
		2d "	11	0	0	0	0	0	0	1	0	0	0	0	5	0	0	0	0	0	0	0	0	2	0	0	0	3				
1830	Admitted.	1st half.	729	0	0	0	3	0	0	40	29	0	0	1	297	2	0	2	3	0	5	72	0	43	0	0	47	185	1477	88 ·151	2 ·227	1 ·963
		2d "	573	0	0	0	2	0	0	31	9	0	0	7	190	3	0	2	0	0	3	62	0	47	5	0	42	170				
	Died.	1st half.	16	0	0	0	1	0	0	3	3	0	0	0	3	0	0	1	0	0	0	1	0	0	0	0	0	4				
		2d "	13	0	0	0	0	0	0	3	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	7				
1831	Admitted.	1st half.	591	0	0	0	2	0	0	41	26	0	12	18	135	0	0	3	0	0	12	65	0	41	3	0	39	194	1459	79 ·506	1 ·034	0 ·822
		2d "	569	0	0	0	0	0	0	38	31	0	27	3	139	2	0	3	0	0	16	61	0	26	10	0	38	172				
	Died.	1st half.	4	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
		2d "	8	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	1	0	0	0	0	0	4				
1832	Admitted.	1st half.	466	1	0	0	0	0	0	35	19	0	11	3	70	9	0	0	0	0	2	38	0	26	6	0	43	203	1509	65 ·805	1 ·309	0 ·861
		2d "	527	0	0	0	0	0	0	21	31	0	19	3	101	12	0	0	0	0	2	46	0	15	5	0	58	211				
	Died.	1st half.	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3				
		2d "	9	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	3				
1833	Admitted.	1st half.	451	0	0	0	0	0	0	29	15	0	16	2	78	2	0	0	2	0	5	56	0	56	4	0	49	137	1394	67 ·934	1 ·583	1 ·076
		2d "	496	0	0	0	0	0	0	31	20	0	112	2	43	2	0	0	1	0	3	57	0	64	3	0	36	122				
	Died.	1st half.	6	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	4				
		2d "	9	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	0	0	2				
1834	Admitted.	1st half.	339	0	0	3	0	0	0	21	16	0	32	2	24	4	0	0	0	0	2	49	1	33	26	1	49	73	1299	49 ·884	1 ·851	0 ·923
		2d "	309	0	0	1	0	0	0	10	13	0	38	0	66	6	0	1	0	0	0	31	0	16	5	0	34	88				
	Died.	1st half.	4	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0				
		2d "	8	0	0	0	0	0	0	1	1	0	2	0	1	0	0	0	0	0	0	2	0	0	0	0	0	1				
1835	Admitted,	1st half.	298	0	3	0	0	8	0	2	17	0	43	1	26	0	0	0	2	0	1	37	2	23	7	0	31	95	1175	41 ·531	1 ·844	0 ·765
		2d "	190	0	2	0	0	7	0	6	9	0	28	2	16	0	0	0	0	0	1	35	3	8	2	0	18	53				
	Died.	1st half.	7	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	4				
		2d "	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0				
1836	Admitted.	1st half.	407	0	2	0	0	96	0	19	18	0	17	0	39	4	2	1	0	0	4	72	5	11	8	0	23	86	1284	51 ·283	2 ·295	1 ·246
		2d "	290	0	0	2	0	29	0	12	11	0	28	1	45	11	3	0	0	0	2	41	2	10	11	0	51	58				
	Died.	1st half.	7	0	0	0	0	0	0	1	2	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	1				
		2d "	9	0	1	1	0	0	0	0	1	0	1	0	2	0	0	0	0	0	0	2	0	0	1	0	0	0				
1837	Admitted.	1st half.	239	0	2	2	0	8	0	11	4	0	21	0	26	51	0	0	0	1	1	21	2	8	3	0	23	52	1379	42 ·204	4 ·982	2 ·102
		2d "	313	0	2	1	0	14	0	30	14	0	48	1	51	5	0	0	2	0	0	37	4	20	15	0	28	71				
	Died.	1st half.	11	0	0	1	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	1	0	0	1	0	1	4				
		2d "	18	0	0	0	0	0	0	5	2	0	2	0	0	0	0	0	0	0	0	0	1	0	4	0	0	4				
1838	Admitted.	1st half.	658	0	1	0	0	75	3	44	14	0	196	5	38	4	0	0	0	1	4	70	0	39	11	0	33	120	1817	61 ·144	3 ·060	1 ·871
		2d "	453	0	3	4	0	35	0	38	12	0	55	11	18	2	0	2	2	0	1	79	1	26	13	0	30	121				
	Died.	1st half.	17	0	0	0	0	0	0	4	2	0	1	0	0	0	0	0	0	0	0	1	0	1	3	0	0	5				
		2d "	17	0	0	1	0	0	0	4	3	0	0	0	2	1	0	1	0	0	0	1	0	1	0	0	0	3				

TENASSERIM COAST.

Table No. 4.—Natives—Abstract of the preceding Returns, shewing the Total number of Admissions and Deaths, &c. from 1829 *to* 1838.

	Diseases.																									
	Admissions and deaths.	Apoplexy.	Atrophy.	Beriberi.	Cholera.	Cutaneous diseases.	Delirium Tremens.	Diarrhœa.	Dysentery.	Elephantiasis.	Fever ephemeral.	,, continued.	,, intermittent.	,, remittent.	Guinea Worm.	Hepatic diseases.	Insanity.	Leprosy.	Ophthalmy.	Rheumatism.	Small pox.	Syphilis &c.	Thoracic diseases.	Ulcer phagedenic.	Wounds & injuries.	Other Complaints.
Aggregate strength. 14,716																										
1829 to 1838. Admitted. 1st half.	5472	2	18	5	5	187	3	296	210	0	348	46	1357	114	2	11	9	2	42	611	10	361	74	1	423	1335
1829 to 1838. Admitted. 2d ,,	4449	0	7	8	2	85	0	232	180	0	355	31	1023	47	3	10	5	0	30	497	10	253	71	0	334	1266
Total..	9921	2	25	13	7	272	3	528	390	0	703	77	2380	161	5	21	14	2	72	1108	20	614	145	1	757	2601
1829 to 1838. Died...... 1st half.	100	1	1	2	1	0	0	11	10	0	2	2	11	0	0	1	1	0	0	12	0	2	5	0	3	35
1829 to 1838. Died...... 2d ,,	104	0	2	2	0	0	0	18	7	0	5	0	16	1	0	1	0	0	0	9	1	5	10	0	0	27
Total..	204	1	3	4	1	0	0	29	17	0	7	2	27	1	0	2	1	0	0	21	1	7	15	0	3	62
Average per centage of sick to strength.	67 ·416	0·013	0·169	0·088	0·047	1·848	0·020	3·587	2·650	0	4·777	0·523	16·172	1·094	0·033	0·142	0·095	0·013	0·489	7·259	0·135	4·172	0·985	0·006	5·144	17·674
Do. of deaths to sick treated.	2 ·056	50·000	12·000	30·769	14·285	0	0	5·492	4·358	0	0·995	2·597	1·134	0·621	0	9·523	7·142	0	0	1·895	5·000	1·140	10·344	0	0·396	2·383
Do. per centage of deaths to strength.	1 ·386	0·006	0·020	0·027	0·006	0	0	0·196	0·115	0	0·047	0·013	0·183	0·006	0	0·013	0·006	0	0	0·142	0·006	0·047	0·101	0	0·020	0·421

No. 5.—*Table exhibiting the number of Admissions and Deaths from each class of Disease, for 5 years.*

EUROPEAN TROOPS.

CLASSES.	DISEASES.	From 1834 to 1838. Aggregate strength 4379. 1st Half. Ad.	1st Half. Dd.	2d Half. Ad.	2d Half. Dd.	Admissions and deaths from each class of disease. 1st Half. Ad.	1st Half. Dd.	2d Half. Ad.	2d Half. Dd.	Total admissions from each class.	Total deaths from each class.	Average per centage of sick to strength.	Average per centage of deaths to sick.
Fevers......	Febris ephemera	19	1	19	0	619	13	795	16	1414	29	32 ·290	2 ·050
	,, intermitt quot.	14	0	182	5								
	,, tertiana......	4	0	72	0								
	,, remittens.....	14	1	37	5								
	,, continua......	569	11	485	6								
	Cholera	25	14	9	2	25	14	9	2	31	16	0 ·776	47 ·058
Diseases of the Abdominal viscera......	Dysenteria acuta	187	21	329	39	205	26	389	58	591	84	13 ·564	14 ·141
	,, chronica......	18	2	60	19								
	Diarrhoea.......	313	2	352	6	513	3	516	8	1059	11	21 ·183	1 ·038
	Colica..........	41	0	60	0								
	Obstipatio.......	55	0	61	0								
	Haemorrhois....	26	0	22	0								
	Enteritis........	2	1	0	0								
	Peritonitis......	1	0	1	0								
	Gastritis........	6	0	3	1								
	Dyspepsia.......	69	0	47	1								
	Hepatitis acuta.	85	1	72	3	143	3	125	6	268	9	6 ·120	3 ·358
	,, chronica......	58	2	53	3								
Diseases of the Lungs and Heart	Catarrhus......	96	1	128	3	125	4	158	8	283	12	6 ·462	4 ·240
	Asthma	4	0	1	0								
	Phthisis pulmonalis........	2	1	3	1								
	Haemoptysis.....	1	0	0	0								
	Pleuritis........	0	0	0	0								
	Pneumonia......	9	1	13	3								
	Carditis........	1	0	1	0								
	Palpitatio......	8	0	6	0								
	Dyspnoea.......	4	1	6	1								
Diseases of the Brain.	Apoplexia......	1	1	0	0	101	4	64	0	168	4	3 ·836	2 .380
	Epilepsia.......	10	0	3	0								
	Paralysis.......	1	0	4	0								
	Cephalalgia	51	1	35	0								
	Phrenitis.......	0	0	0	0								
	Ictus solis......	0	0	0	0								
	Amentia........	0	0	0	0								
	Mania..........	3	0	1	0								
	Hydrophobia...	0	0	0	0								
	Delirium Tremens.........	10	2	6	0								
	Ebrietas........	25	0	15	0								
Diseases of the Eye..	Morbi oculorum..........	40	0	50	0	40	0	50	0	90	0	2 ·055	0
Do. ,, Skin	,, cutis........	21	0	18	0	21	0	18	0	39	0	0 ·890	0
Eruptive Fevers......	Variola.........	2	0	1	0	3	0	3	0	6	0	0 ·137	0
	Varicella.......	0	0	0	0								
	Rubeola........	0	0	1	0								
	Scarlatina......	0	0	0	0								
	Erysipelas......	1	0	1	0								
Dropsies....	Anasarca.......	0	0	6	1	2	0	21	7	23	7	0 ·525	30 ·434
	Ascites.........	1	0	13	5								
	Hydrothorax....	1	0	2	1								
Rheumatic affection.	Rheumatismus acutus........	97	1	122	1	168	2	216	1	381	3	8 ·769	0 ·781
	,, chronicus....	69	1	93	0								
	Neuralgia	0	0	0	0								
	Odontalgia......	2	0	1	0								
Venereal affection....	Syphilis primitiva..........	67	0	89	0	295	2	269	1	551	3	12 ·879	0 ·531
	,, consecutiva...	10	1	6	1								
	Gonorrhoea.....	164	1	118	0								
	Hernia humoralis.........	54	0	52	0								
	Strictura urethrae.........	0	0	4	0								
Specific diseases.....	Atrophia........	0	0	0	0	17	0	13	0	30	0	0 ·685	0
	Beriberi........	0	0	0	0								
	Elephantiasis...	0	0	0	0								
	Lepra..	0	0	0	0								
	Dracunculus....	0	0	0	0								
	Ulcus phagedenicum........	4	0	2	0								
	Scrophula	7	0	8	0								
	Scorbutus......	6	0	3	0								
Punishment.	Punitus........	30	0	20	0	30	0	20	0	50	0	1 ·141	0
Wounds and injuries...	Fractura........	12	0	3	0	264	1	270	1	531	2	12 ·194	0 ·374
	Luxatio.........	8	0	2	0								
	Subluxatio......	33	.0	30	0								
	Vulnus sclopitorum........	2	1	4	0								
	,, incisum......	60	0	69	1								
	Contusio	141	0	149	0								
	Ambustio	8	0	13	0								
Other diseases, including Phlogosis, Ulcus, &c.............		421	3	578	11	491	3	578	11	*999	†14	22 ·813	1 ·401
	Total......	2995	75	3514	119	2995	75	3541	119	6539	194	149 ·326	2 ·966

Average per centage of deaths to strength during these five years, has been 4·430.

* Of this number were

Phlogosis.............	256 0
Do. Do. Ulcus........	329 0
Do. Do. Bubo simplex.	151 0
Total......	739 0

† The deaths under this head include one from cynanche, one from icterus, and twelve under the head "other diseases," not particularised.

TENASSERIM COAST.

No. 6.—*Table exhibiting the number of Admissions and Deaths from each class of Disease, for 5 years.*

NATIVE TROOPS.

CLASSES.	DISEASES.	From 1834 to 1838. Aggregate strength. 6955. 1st Half. Ad.	Dd.	2d. Half. Ad.	Dd.	Admissions and deaths from each class of disease. 1st Half. Ad.	Dd.	2d. Half. Ad.	Dd.	Total admissions from each class.	Total deaths from each class.	Average per centage of sick to strength.	Average per centage of deaths to sick.
Fevers......	Febris ephemera	309	2	197	5								
	,, intermit. quot.	125	3	124	5								
	,, tertiana	28	0	72	0	533	5	432	11	965	16	13 ·874	1 ·658
	,, remittens.....	63	0	24	1								
	,, continua.....	8	0	15	0								
	Cholera........	0	0	0	0	0	0	0	0	0	0	0	0
Diseases of the Abdominal viscera......	Dysenteria acuta	60	1	44	4								
	,, chronica......	9	4	15	3	69	5	59	7	128	12	1 ·810	9 ·375
	Diarrhœa.......	100	5	96	10								
	Colica..........	32	0	7	0								
	Obstipatio......	6	0	16	0								
	Hœmorrhois....	12	1	13	0								
	Euteritis........	0	0	0	0	178	10	185	12	363	22	5 ·219	6 ·060
	Peritonitis.....	0	0	0	0								
	Gastritis........	0	0	0	0								
	Dyspepsia......	28	4	53	2								
	Hepatitis acuta.	0	0	2	0								
	,, chronica......	1	0	1	1	1	0	3	1	4	1	0 ·057	25
Diseases of the Lungs and Heart	Catarrhus......	30	1	26	2								
	Asthma........	16	0	11	1								
	Phthisis pulmonalis..........	2	2	4	2								
	Hœmoptysis....	1	1	1	0								
	Pleuritis........	0	0	0	0	55	5	46	5	101	10	1 ·452	9 ·901
	Pneumonia.....	0	0	1	0								
	Carditis.........	0	0	0	0								
	Palpitatio	1	0	0	0								
	Dyspnœa.......	5	1	3	0								
Diseases of the Brain.	Apoplexia......	0	0	0	0								
	Epilepsia	1	0	0	0								
	Paralysis.......	3	0	1	0								
	Cephalalgia	13	2	7	0								
	Phrenitis.......	0	0	0	0								
	Ictus solis.....	0	0	0	0								
	Amentia........	1	1	2	0	22	3	12	0	34	3	0 ·488	8 ·823
	Mania..........	1	0	2	0								
	Hydrophobia ..	0	0	0	0								
	Delirium Tremens.........	3	0	0	0								
	Ebrietas........	0	0	0	0								
Diseases of the Eye..	Morbi oculorum	12	0	4	0	12	0	4	0	16	0	0 ·230	0
Do. Skin.	,, cutis......	187	0	85	0	187	0	85	0	272	0	3 .910	0
Eruptive fevers......	Variola.........	3	0	9	1								
	Varicella.......	7	0	1	0								
	Rubeola........	0	0	3	0	11	0	13	1	24	1	0 ·345	4 ·166
	Scarlatina......	0	0	0	0								
	Erysipelas......	1	0	0	0								
Dropsies....	Anasarca........	5	3	7	4								
	Ascites.........	1	0	0	0	6	3	7	4	13	7	0 ·186	53 ·846
	Hydrothorax...	0	0	0	0								
Rheumatic affections.	Rheumat acutus	134	4	109	3								
	,, chronicus	118	3	114	2								
	Neuralgia.......	0	0	0	0	255	7	224	5	479	12	6 ·887	2 ·505
	Odontalgia... ..	3	0	1	0								
Venereal affections..	Syphilis primitiva..........	49	0	31	1								
	,, consecutiva	8	1	9	0								
	Gonorrhœa.....	25	0	18	1								
	Hernia humoralis...........	26	0	19	0	114	1	80	2	194	3	2 ·789	1 ·546
	Strictura urethræ..........	6	0	0	0								
Specific diseases.....	Atrophia.......	8	0	7	2								
	Beriberi........	5	2	8	2								
	Elephantiasis...	0	0	0	0								
	Lepra..........	2	0	0	0								
	Dracunculus....	2	0	3	0	21	2	22	4	43	6	0 ·618	13 ·953
	Ulcus phagedenicum.........	1	0	0	0								
	Scrophula......	3	0	4	0								
	Scorbutus......	0	0	0	0								
Punishment	Punitus.........	6	0	4	0	6	0	4	0	10	0	0 ·143	0
Wounds and injuries ..	Fractura........	3	0	1	0								
	Luxatio	1	0	1	0								
	Subluxatio	12	0	6	0								
	Vulnus sclopitorum..........	1	0	0	0	159	1	134	0	293	1	4 ·212	0 ·341
	,, incisum......	37	0	24	0								
	Contusio.......	91	1	99	0								
	Ambustio.......	14	0	3	0								
Other diseases, including Phlogosis, Ulcus, &c............		312	4	275	2	312	4	275	2	*587	†6	8 ·439	1 ·022
	Total....	1941	46	1585	54	1941	46	1585	54	3526	100	50 ·697	2 ·836

Average per centage of deaths to strength during these five years, has been 1·437.

* Of this number were

Phlogosis.........	245	1
Do. Do. Ulcus.......	236	1
Do. Do. Bubo simplex.	52	0
Total......	533	2

† The deaths under this head, include, besides those in the preceding note, one from cynanche, one from diabetes, one from icterus, and one not particularized.

TENASSERIM PROVINCES.

No. 7.—Table exhibiting the admissions and deaths from the most particular diseases, amongst the European and Native Troops, in the Tenasserim Provinces, during the ten years, from 1829 to 1838 inclusive, with the proportion each bears to the total number of Admissions and Deaths.

	Cholera.		Fever.		Dysentery.		Hepatitis.		Diarrhœa.		Thoracic diseases.		Rheumatism.		Syphilis.		Total from these compts.	
	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.
Europeans.																		
Total Admissions.... 13,046	36	$\frac{1}{362}$	3568	$\frac{2}{7}$	1404	$\frac{1}{9}$	541	$\frac{1}{24}$	897	$\frac{2}{29}$	610	$\frac{1}{21}$	550	$\frac{1}{24}$	906	$\frac{1}{14}$	8512	$\frac{2}{3}$
,, Deaths.......... 340	17	$\frac{1}{20}$	68	$\frac{1}{5}$	125	$\frac{1}{3}$	29	$\frac{1}{12}$	13	$\frac{1}{31}$	24	$\frac{1}{14}$	6	$\frac{1}{57}$	4	$\frac{1}{65}$	286	$\frac{5}{6}$
Natives.																		
Total Admissions.... 9,921	7	$\frac{1}{1417}$	3321	$\frac{1}{3}$	390	$\frac{1}{25}$	21	$\frac{1}{472}$	528	$\frac{1}{19}$	145	$\frac{1}{68}$	1108	$\frac{1}{35}$	614	$\frac{1}{16}$	6134	$\frac{2}{3}$
,, Deaths.........204	1	$\frac{1}{204}$	37	$\frac{2}{11}$	17	$\frac{1}{12}$	2	$\frac{1}{102}$	29	$\frac{1}{7}$	15	$\frac{2}{27}$	21	$\frac{1}{10}$	7	$\frac{1}{29}$	129	$\frac{3}{5}$

No. 8.—Table shewing the per centage of admissions from the same diseases to the strength, of deaths to sick treated, and of deaths to the strength; it exhibits also the difference in these respects, amongst the European and Native sick.

	Cholera.		Fever.		Dysentery.		Hepatitis.		Diarrhœa.		Thoracic diseases.		Rheumatism.		Syphilis.		Total from these diseases.		Grand total.	
	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.
European Troops. STRENGTH, 9,092.																				
Percentage of sick to strength	36	0·395	3568	39·243	1404	15·442	541	5·950	897	9·865	610	6·709	550	6·049	906	9·964	8512	93·627	13046	143·483
,, of deaths to sick treated.	17	47·222	68	1·905	125	8·903	29	5·360	13	1·449	24	3·934	6	1·090	4	0·441	286	3·359	340	2·606
,, of deaths to strength...	17	0·186	68	0·747	125	1·374	29	0·318	13	0·142	24	0·263	6	0·065	4	0·043	286	1·345	340	3·739
Native Troops. STRENGTH, 14,716.																				
Percentage of sick to strength	7	0·047	3321	22·567	390	2·650	21	0·142	528	3·587	145	0·985	1108	7·529	614	4·172	6134	41·682	9921	67·419
,, of deaths to sick treated.	1	14·285	37	1·114	17	4·358	2	9·523	29	5·492	15	10·344	21	1·895	7	1·140	129	2·102	204	2·056
,, of deaths to strength...	1	0·006	37	0·251	17	0·115	2	0·013	29	0·196	15	0·101	21	0·142	7	0·047	129	0·876	204	1·386

No. 9.—*Table shewing the amount of Admissions and Deaths from the principal classes of disease during five years, from 1834 to 1838 inclusive, with the proportion of Admissions from each to the total of sick treated, and of deaths to the total mortality.*

	Fevers.		Cholera.		Dysentery.		Abdominal complaints.		Diseases of the Liver.		Diseases of the Lungs.		Diseases of the Brain.		Dropsies.		Rheumatic affections.		Venereal complaints.	
	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.	Ad. & deaths.	Prop.
European Troops.																				
Total Admissions.... 6,539	1414	$\frac{2}{9}$	34	$\frac{1}{192}$	594	$\frac{1}{11}$	1059	$\frac{1}{6}$	268	$\frac{1}{24}$	283	$\frac{1}{23}$	168	$\frac{1}{39}$	23	$\frac{1}{284}$	384	$\frac{1}{17}$	564	$\frac{2}{23}$
„ Deaths........ 194	29	$\frac{1}{7}$	16	$\frac{1}{12}$	84	$\frac{4}{9}$	11	$\frac{1}{18}$	9	$\frac{1}{22}$	12	$\frac{1}{16}$	4	$\frac{1}{48}$	7	$\frac{1}{28}$	3	$\frac{1}{65}$	3	$\frac{1}{65}$
Native Troops.																				
Total Admissions ... 3,526	975	$\frac{2}{7}$	0	0	128	$\frac{1}{28}$	363	$\frac{4}{39}$	4	$\frac{1}{881}$	101	$\frac{1}{35}$	34	$\frac{1}{104}$	13	$\frac{1}{271}$	479	$\frac{1}{7}$	194	$\frac{1}{18}$
„ Deaths........ 100	16	$\frac{1}{6}$	0	0	12	$\frac{1}{8}$	22	$\frac{2}{9}$	1	$\frac{1}{100}$	10	$\frac{1}{10}$	3	$\frac{1}{33}$	7	$\frac{1}{14}$	12	$\frac{1}{8}$	3	$\frac{1}{33}$

No. 10.—*Table exhibiting the per centage of Admissions from the same classes of disease to the strength, of deaths to sick treated, and of deaths to strength, both amongst European and Native troops.*

	Fevers.		Cholera.		Dysentery.		Abdominal complaints.		Diseases of the Liver.		Diseases of the Lungs.		Diseases of the Brain.		Dropsies.		Rheumatic affections.		Venereal complaints.	
	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.	Ad. & deaths.	Per-cent-age.
European Troops. STRENGTH, 4379.																				
Percentage of sick to strength	1414	32·290	34	0·776	594	13·564	1059	24·183	268	6·120	283	6·462	168	3·836	23	0·525	384	8·769	564	12·879
„ of deaths to sick.....	29	2·050	16	47.058	84	14·141	11	1·038	9	3·358	12	4·240	4	2·380	7	30·434	3	0·781	3	0·531
„ of deaths to strength..	29	0·662	16	0.365	84	1·918	11	0·251	9	0·205	12	0·264	4	0·091	7	0·159	3	0·068	3	0·068
Native Troops. STRENGTH, 6955.																				
Percentage of sick to strength	965	13·874	0	0	128	1·840	363	5·219	4	0·057	101	1·452	34	0·488	13	0·186	479	6·887	194	2·789
„ of deaths to sick.....	16	1·658	0	0	12	9·375	22	6·060	1	25·000	10	9·901	3	8·823	7	53·846	12	2·505	3	1·546
„ of deaths to strength..	16	0·230	0	0	12	0·172	22	0·316	1	0·014	10	0·143	3	0·043	7	0·100	12	0·172	3	0·043

MOULMEIN.

No. 13.—*Table exhibiting the sickness and mortality amongst the* OFFICER'S *of H. M.'s regiments at Moulmein, from* 1829 *to* 1840, *exclusive of* 1833 *and* 1834.

Aggregate strength. 325. CLASSES.	DISEASES.	Admissions.	Deaths.	Total admissions from each class.	Total deaths from each class.	Per centage of sick to strength.	Per centage of deaths to sick.
Fevers......	Febris intermit. quotid........	11	0	92	4	28 ·307	4 ·347
	,, remittens.	12	1				
	,, com. cont.	69	3				
	Cholera.........	0	0	0	0	0	0
Diseases of the abdominal viscera......	Diarrhœa..	23	0	91	1	28 ·000	1 ·098
	Dysenteria.....	19	1				
	Obstipatio......	15	0				
	Dyspepsia......	34	0				
	Hepatitis....	26	2	26	2	8 ·000	7 ·692
Diseases of the lungs.	Catarrhus......	31	0	34	0	10 ·461	0 ·000
	Asthma.........	2	0				
	Pneumonia.....	1	0				
Diseases of the brain.	Paralysis.......	1	0	2	1	0 ·615	50 ·000
	Mania.........	1	1				
	Anasarca.......	1	1	1	1	0 ·307	100 ·000
	Rheumatismus.	24	0	24	0	7 ·385	0 ·000
Venereal affections..	Syphilis prim..	3	0	31	0	9 ·538	0 ·000
	Gonorrhœa.....	18	0				
	Hernia humoralis............	8	0				
	Strictura urethræ.........	2	0				
	Morbi oculorum	8	0	8	0	2 ·461	0 ·000
	,, cutis......	2	0	2	0	0 ·651	0 ·000
	Other diseases..	140	0	140	0	43 ·076	0 ·000
	Total....	451	9	451	9	138 ·769	1 ·995

NOTE.—Per centage of deaths to strength, 2·775.

MOULMEIN.

No. 14.—*Table exhibiting the sickness and mortality amongst the WOMEN of H. M.'s regiments at Moulmein, from* 1829 *to* 1840, *exclusive of* 1833 *and* 1834.

Aggregate strength 788. CLASSES.	DISEASES.	Admissions.	Deaths.	Total admissions from each class.	Total deaths from each class.	Per centage of sick to strength.	Per centage of deaths to sick.
Fever......	Febris intermit quotid.......	17	0	205	1	26·015	0·487
	,, remittens	20	0				
	,, com. cont....	168	1				
	Cholera	1	0	1	0	0·126	0·000
Diseases of the abdominal viscera......	Diarrhœa	63	4	204	10	25·889	4·901
	Dysenteria......	46	6				
	Colica..........	14	0				
	Dyspepsia......	18	0				
	Obstipatio......	59	0				
	Splenitis........	1	0				
	Gastritis........	2	0				
	Peritonitis......	1	0				
	Hepatitis..	20	0	20	0	2·538	0·000
Diseases of the Lungs	Catarrhus......	24	2	29	2	3·682	6·896
	Asthma	4	0				
	Pneumonia......	1	0				
Diseases of the Brain.	Apoplexia......	1	1	4	3	0·507	75·000
	Epilepsia.......	1	0				
	Hysteria........	1	1				
	Tetanus........	1	1				
	Erysipelas......	1	0	1	0	0·126	0·000
	Rheumatismus.	8	0	8	0	1·015	0·000
Peculiar diseases..	Amenorrhœa...	1	0	65	1	8·218	1·538
	Menorrhagia....	3	0				
	Abortio	2	1				
	Prolapsus uteri.	1	0				
	Parturitio......	58	0				
	Morbi oculorum	10	0	10	0	1·269	0·000
	,, cutis......	2	0	2	0	0·253	0·000
	Other diseases..	94	1	94	1	11·928	1·063
	Total....	643	18	643	18	81·598	2·799

NOTE.—Per centage of deaths to strength, 2·284.

MOULMEIN.

No. 15.—*Table exhibiting the sickness and mortality amongst the CHILDREN of H. M.'s regiments at Moulmein, from* 1829 *to* 1840, *exclusive of* 1833 *and* 1834.

Aggregate strength 908. CLASSES.	DISEASES.	Admissions.	Deaths.	Total admissions from each class.	Total deaths from each class.	Per centage of sick to strength.	Per centage of deaths to sick.
Fevers......	Febris intermit quotid........	8	0	147	10	16 ·189	6 ·530
	,, remittens.	40	10				
	,, com. con..	99	0				
	Cholera........	0	0	0	0	0	0
Diseases of the abdominal viscera......	Diarrhœa.......	128	9	178	20	19 ·603	11 ·235
	Dysenteria.....	36	8				
	Obstipatio......	4	0				
	Marasmus......	5	2				
	Colica..........	4	0				
	Enteritis.......	1	1				
	Hepatitis.......	1	0	1	0	0 ·110	0 ·000
Diseases of the lungs.	Cynanche......	3	0	55	2	6 ·057	3 ·636
	Catarrhus.......	48	0				
	Pneumonia.....	4	2				
	Convulsio.......	18	17	18	17	1 ·982	24 ·444
	Varicella.......	1	0	1	0	0 ·110	0 ·000
	Dentitio........	5	1	36	3	3 ·964	8 ·333
	Vermes........	31	2				
	Morbi oculorum	19	0	19	0	2 ·092	0 ·000
	,, Cutis......	12	0	12	0	1 ·321	0 ·000
	Other diseases..	51	2	51	2	5 ·616	3 ·921
	Total....	518	51	518	54	57 ·048	10 ·424

NOTE.—Per centage of deaths to strength, 5·947.

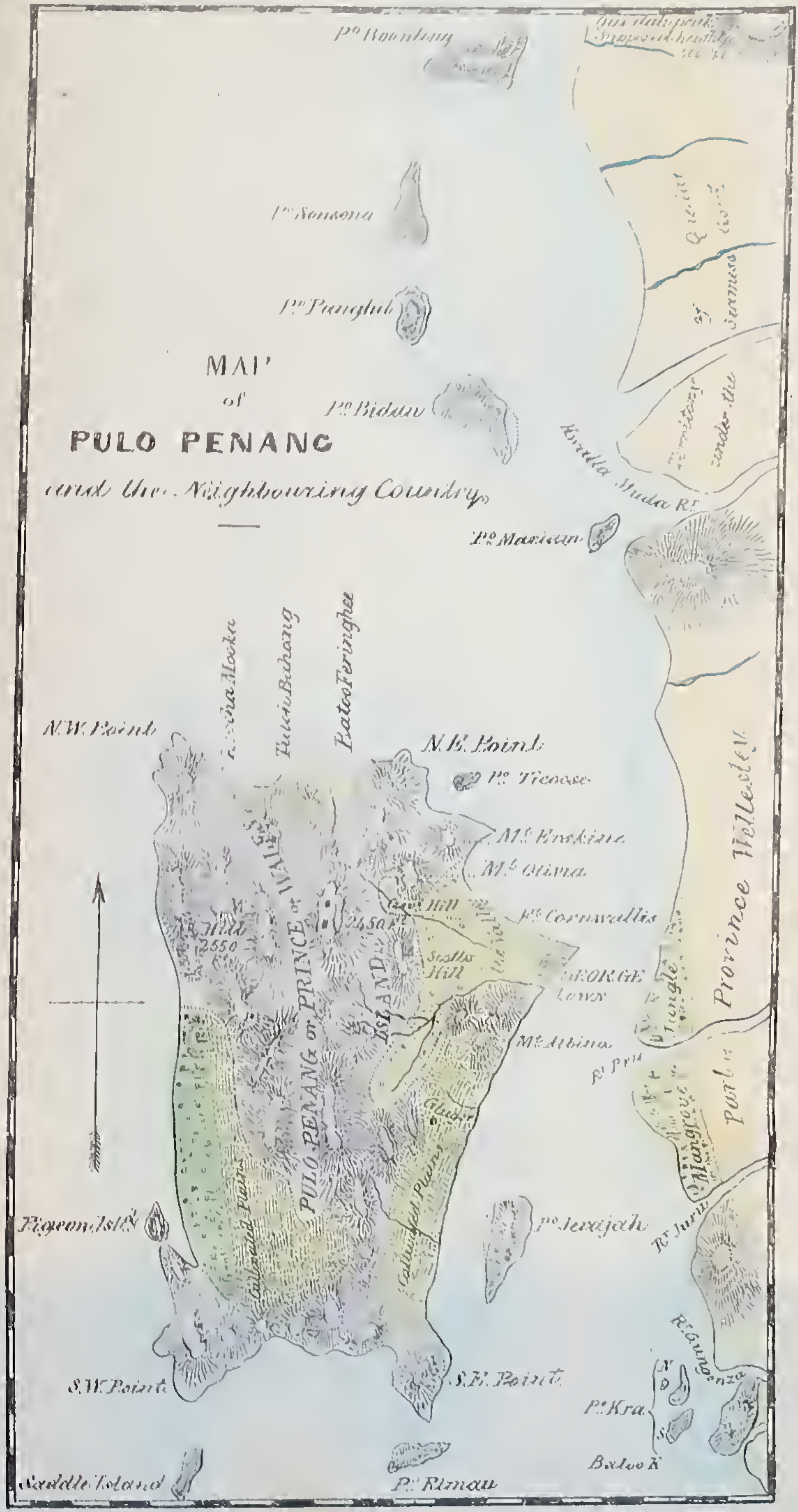
PENANG.

General description.

Prince of Wales island, or Pulo-Penang, as it is called by the Malays, is situated between 5° 15″, and 5° 29″, of north latitude, and in 100° 19″ east longitude. This island was transferred to the Honorable East India company in 1786, by the king of Queddah, through Mr. Light, master of a country vessel; at which time it is said to have been entirely covered with jungle, and destitute of inhabitants, with the exception of a few Malays, who gained a livelihood by fishing. After the cession of Penang to the British, persons from the neighbouring countries, attracted by the encouragement held out to settlers, and the inducement of living under a mild and just government, by which their property would be secured, flocked to the place in considerable numbers.

This beautiful island, which is clothed with perpetual verdure, is separated from the Malayan peninsula by a strait, at its narrowest part, about 2 miles in breadth; it is in shape pentagonal, the two longest sides are of pretty equal length, running nearly north and south,—its greatest length is 16 miles, from north to south, and its greatest breadth 12 miles, containing 165 square miles, of which a considerable portion is under cultivation, and the rest covered with thick and lofty jungle.

The island is divided into two nearly equal portions, by a high chain of hills, running from north to south, with low flat land on either side, the chain being most elevated to the northward, and decreasing in height toward the southward. The plain, on the eastern side of the hills, is the most thickly inhabited part, and at the most eastern part of it stands, Fort Cornwallis, some of the outworks of which have at different times, been undermined by the sea.



Madras Lith. Press. B.C. Regel. del.

Population. The annexed table, shews the extent of the population in 1839, when it amounted to 40,242 souls.

Census of the Population of the Prince of Wales Island or Pulo-Penang, in 1839.

DISTRICTS.	Europeans.	Descendants of Europeans and Native christians.	Armenians.	Jews.	Malays & Bugis.	Achinese.	Battas.	Chulias.	Chinese.	Bengalies.	Burmese and Siamese.	Arabs.	Parsees.	Coffrees.	Total.
George Town..................	73	682	29	16	2,904	0	35	3,231	3,919	365	28	28	9	68	11,417
Telick Ayer Raja........	0	465	0	0	4,276	143	61	1,391	1,379	645	592	35	0	57	9,039
Selutong.......................	0	14	0	0	2,856	13	13	1,175	1,587	131	46	49	0	5	5,890
Glugore including Pulo-Jerango	0	4	0	0	1,975	0	12	491	495	19	22	29	0	22	3,069
Tungei Kluang.................	0	0	0	0	4,812	155	101	147	973	2	12	0	0	9	6,211
Western District...............	0	0	0	0	1,869	14	141	21	618	0	11	0	0	0	2,674
	73	1,165	29	16	18,692	325	363	6,456	8,997	1,162	711	141	9	161	38,300
In the Chinese poor house 39, Pauper Hospital 25, Lunatic Asylum 22..............															86
Convicts from Continental India 786. Local Prisoners, and Debtors 70.............															856
Itenerants of various classes..															1,000
Grand Total........															40,242

The Artillery to the number of 50 or 60 are quartered in the fort, and accommodated in good barracks, built upon the ramparts; and in it also, is an arsenal, with a powder magazine.

To the south-west along the shore extends George town, and about 6 miles further south, is a small collection of native huts, to which the name of James' town has been given. To the westward of the fort, extending for about a mile and a half along the beach, there is a succession of good houses, inhabited by the military and gentry resident on the island. At about 150 yards from the fort, is the hospital for the European artillery, calculated to contain 14 beds, the sick occupy the upper story, the lower part of the building being used as a gun shed; a good ward on the ground floor, is also allotted for the sick of the golundauze.

Immediately adjoining, are the barracks of the golundauze, built of brick and chunam, with tiled roofs, and furnished with wooden sleeping trestles.

Native infantry lines. About $2\frac{1}{4}$ miles to the N. W., are the sepoy lines, capable of accommodating a complete native regiment, situated in a large open space, which in fair weather, is dry and healthy, but becomes somewhat swampy during the rains. The huts are neatly arranged in parallel rows, with a sufficient distance between them; they are built of the atap leaf, and have hitherto been erected at the expense of government.

Native infantry hospital. To the rear of the lines is the regimental hospital, a good two storied building; the upper story, which consists of a long centre room, with two smaller ones on each side, is occupied by the sick; the length of the building is 55 feet, breadth 38, and the wards can contain about 80 beds. On the ground flour are the dispensary, and bathing rooms. The situation is good, being a slightly raised and dry spot, and the space around is well cleared and open.

Government hill. Proceeding about two miles to the north-west, the road commences, by which the great hill, or "government hill" as it is called, is ascended, it is about three miles in

length,and is wide but steep ; and invalids,who frequently resort to the hill for the benefit of change to a cool and bracing climate,can be carried up in a chair by coolies,in about an hour and a half ; but on horseback much less time is required. On the summit of the hill, nearly 2500 feet above the level of the sea, and the highest inhabited spot on the island, are four bungalows, two of which are the property of government, the larger being the residence of the governor of the straits, on his occasional visits to this station ; and the other is available to be rented by invalids. Bungalows have also been built on some of the lesser hills, but of these two or three have been abandoned, in consequence of the mortality from fever,which occurred in families formerly residing there ; the others are still occasionally occupied,and generally considered healthy.

Cultivation of land.

The hills appear to be of primitive formation, consisting almost entirely of a fine grey granite, the debris of which,combined with decomposed vegetable matter, composes the soil of the low lands, which, with the exception of some swampy patches of mangrove, are mostly under cultivation ; the parts inundated during the rains, are laid out as rice grounds, the rest chiefly for rearing spices, for which both climate and soil have been found to be well adapted.

Water.

Good water is procurable in all parts of the island, a few feet from the surface, except in very dry seasons; and also, from excellent springs at the foot of the hills.

Botanical productions.

The botany of the island has not yet been fully investigated, though it would well repay the labour and risk attending its examination, particularly in ferns and parasitical plants,which are extremely abundant; of the great variety of trees met with,many are much prized by the natives, on account of the various uses to which they are applied. Fruit can be obtained in great abundance at all seasons of the year, among the best kinds of which may be enumerated, the mongoosten, ramboosten, oranges, jack fruit, the tampoone, ramboi, doorian, and many others.—Pine apples grow wild,

covering large patches of ground, and are considered to be of peculiarly fine flavour.

Insects. The entomology seems exceedingly rich, and this department of natural history, would probably yield a richer harvest than any other in the island. Large collections have of late been made by several individuals, attracted by the great beauty and variety, more especially of the lepidopterous insects, to be met with ; but they have not it is believed, been yet scientifically arranged, or described.

Animals. The indiginous animals are but few in number ; —the malayan elk, a diminutive species of deer, with some varieties of the quadrumana, a few species of the squirrel tribe, and some few other unimportant animals, constitute the mammalia to be met with.

Climate and its effects upon health. The peculiar position of Penang, its insular situation and local features, combine to render the climate essentially different from that of all other Indian stations. It is comparatively but little influenced by the causes which produee the regularity of the seasons, throughout our other eastern possessions.

The moonsoons, though felt to a certain extent, are not ushered in by the great changes elsewhere observed, which seems to be owing in some measure, to the influence which the island of Sumatra, and the peninsula of Malacca exercise, in changing the direction of the currents of air. Whatever may be the cause, the distinction between the dry and rainy seasons, is but imperfectly marked, for except in unusually dry years, a month does not pass, without more or less rain, and the excessively humid atmosphere, conjoined with great heat, renders the climate relaxing and enervating.

The ground is kept constantly covered with water by the heavy rains, and it is perhaps owing to this circumstance, that malignant fevers seldom occur, though some parts of the island, more especially in the vicinity of the hills, are pro-

ductive of fevers, whilst the cultivated and inhabited parts, are exempt from them, but no cases of fever, of a similarly fatal character to that described by Dr. Ward, have been seen for some years past.

The quantity of rain varies much in different years, and usually ranges from 60, to 90 inches, January and February being the driest months. From the great moisture, and the relaxing effects of the climate, some peculiarities in the diseases of the island are observed; the acute forms of disease of drier localities, not being here seen, and ulcers and other affections, are characterized by a want of action and vigour in the constitution; and even in acute cases, topical depletion is in general sufficient to arrest their course.

The atmosphere is felt to be particularly oppressive, both before and after rain, when the damp heat is to many almost insupportable; and this condition of the air, often alternates with strong squalls, by which the perspiration is checked, causing many of the diseases met with.

The climate is therefore a trying one to the European constitution, from there being no cold season to invigorate the system after the oppresive heat; and in almost all cases, after attacks of severe disease, either a change of climate, or residence on the hill, becomes necessary for recovery.

As the air is always mild, even in the N. E. monsoon, the climate is in many cases, well suited for persons labouring under a diseased or irritable state of the lungs or bronchiæ; though instances are seen, in which coughs are attended with profuse expectoration, arising from a relaxed condition of the mucous membrane. Excessive discharges particularly in European females, from the genito-urinary passages, are likewise met with, arising from the same cause.

The evenings and nights are cool throughout the year, and when the sky is clear, a copious deposition of dew takes place, rendering the air chilly. Fogs so prevalent on the

opposite coast of Province Wellesley, do not occur, except at the base of the hills.

The direction of the winds, as above mentioned, is very irregular, but the westerly is by far the most common. The chain of hills prevents its direct influence on the lower country, and deflects it so much, that at the north end of the island, it becomes a northerly, and at the south, a southerly wind; and were it not that the high land intercepts the sea breeze, the climate would be much more agreeable than it is found to be, a refreshing sea breeze often prevailing on the opposite shore of Province Wellesley, whilst on the island, it is close and oppressive.

The southerly wind is considered to be unhealthy, and is usually excluded from the houses, by the older inhabitants, as much as practicable, but it is fortunately of rare occurrence; during the continuance of this wind the skin feels dry and harsh, headaches, with feverishness and general *malaise* occur; and domestic animals have been known to die in great numbers during its prevalence.

The most refreshing and pleasant wind is the northerly, which blows for four or five months, it veers from north-west to north-east, during the monsoon; on first setting in, it often occasions catarrhs, slight fevers, and rheumatism, but this is certainly the most healthy, and agreeable season of the year; the effect of the north-east monsoon, is usually felt in September, and the south-west as early as March or April.

Circumstances, which formerly influenced the type of disease, there is reason to suppose, have become greatly modified, as at the time Dr Ward's report was written, many tracts of land were undergoing the process of clearing for cultivation, the ground being turned up for the first time, which is believed to be a productive source of miasm. Persons were also more in the habit of residing on, or near the newly cleared lands than at present; experience has also taught the residents, the danger of exposure to the sun, and shooting and boating parties, are now less frequent than formerly.

Prevailing diseases. The most prevalent diseases, are fevers, rheumatism, ulcers and derangement of the intestinal canal. Amongst the native troops, men frequently fall into low spirits, sicken, become emaciated and die, without any appreciable symptom of local disease. In these cases, a longing to return to their native country, is the most marked feature of the complaint.

Fevers. The cases of fever, are usually either ephemeral or quotidian, and fevers of a severe form, have not of late been seen.

Worms. Worms in the intestines, chiefly lumbrici, are very common.

Hepatitis. Cases of hepatitis are rarely met with, and easily subdued.

Rheumatism. Rheumatism is the most important, and intractable disease of the island; and natives of India suffer more from it, than Europeans; in many cases, no benefit has been derived from any mode of treatment, and removal from the climate becomes requisite.

Variola. Variola has occasionally prevailed in a severe form, and from the character of the climate, great difficulty has been experienced in keeping up vaccination, which for some years has not been satisfactorily established.

Dysentery. Acute dysentery is very rare, neither is the chronic form of the disease, nor diarrhœa very common; but when they do occur, they are exceedingly obstinate, recurring on the least neglect of diet or regimen. Ipecacuanha is found a most valuable medicine in these diseases, with leeching, counter irritation by blisters, anodyne enemata, and mineral and vegetable tonics, during convalescence.

Dyspepsia and Hypochondriasis. Dyspepsia and hypochondriasis, are, from the debilitating effects of the climate, of frequent occurrence, and usually require a change of residence.

Hydrocele. The number of natives in the island suffering from hydrocele, is very remarkable; and it is not known whether they employ any remedies for its cure.

Lepra. Lepra is prevalent among the chinese, and a large number of patients suffering from the disease, are constantly under the treatment of the civil surgeon ; and many others are seen wandering about the island.—The surgeon in charge of these patients, is satisfied that the disease is incurable, and he is strongly of opinion, that it is also contagious.

Ulcers. Ulcers are always prevalent, more especially amongst troops, in the first year of their residence on the island. They are not now seen in so severe a form, as when first the place was occupied, but are often troublesome and difficult of cure, are very liable to recur from slight causes, and are characterised by debility, and want of tone in the system ; they frequently commence in itch, about the ankles, which runs into sores with rounded, and hardened edges, granulations being either entirely wanting, or the bottom of the sore is sloughy. Ulcers occurring spontaneously, generally commence in some derangement of the subcutaneous cellular tissue,when the person's attention is first attracted by a sensation of pain, itching and slight swelling of the skin, which becomes red, and in the centre of the inflammed part a black spot is observed, which being detached, a small slough is found underneath ; and the pain which is often severe, is relieved after an open sore is formed.

The treatment found most beneficial, has been poulticing at first, with stimulant applications or hot dressings, till the slough is detached ; then slightly stimulant lotions, such as a weak solution of zinci sulphas are used ; and occasionally much benefit is derived from the black wash ; should the slough be of considerable size, touching its edges with strong nitric acid, has proved useful, and in cases where the ulcers become indolent, with round hardened edges, scarifications, blistering and pressure by strapping.

The general health must also be carefully attended to, and alteratives with tonics, stimulants, a liberal allowance of beer and wine, and a generous nutritious diet are the means to be relied on.

No. 16.—*Table exhibiting the sickness and mortality amongst the native troops at Penang from* 1831 *to* 1841, *exclusive of* 1833.

Aggregate strength. 6222. CLASSES.	DISEASES.	Admissions.	Deaths.	Total admissions from each class.	Total deaths from each class.	Per centage of sick to strength.	Per centage of deaths to sick.
Fevers......	Febris ephemera	660	3	879	17	14 ·127	1 ·934
	,, intermit quot.	161	5				
	,, tertiana.......	8	0				
	,, remittens.. ..	43	7				
	,, com. cont....	7	2				
	Cholera........	2	0	2	0	0 ·032	0 ·000
Diseases of the abdominal viscera......	Diarrhœa..	160	6	455	14	7 ·312	3 ·076
	Dysenteria.....	19	3				
	Colica..........	14	1				
	Obstipatio......	59	0				
	Hœmorrhois...	5	0				
	Dyspepsia......	198	4				
Diseases of the lungs.	Catarrhus..	229	0	262	4	4 ·210	1 ·526
	Asthma.........	24	2				
	Phthisis pulmo.	4	1				
	Pneumonia.....	5	1				
Diseases of the brain.	Apoplexia..	1	0	23	4	0 ·369	17 ·391
	Epilepsia.......	2	1				
	Paralysis.......	9	2				
	Amentia........	6	0				
	Mania..........	1	0				
	Tetanus........	2	1				
	Ebrietas........	2	0				
Eruptive fevers......	Variola.........	9	0	11	0	0 ·176	0 ·000
	Erysipelas,.....	2	0				
Dropsics....	Anasarca...	34	8	38	12	0 ·610	31 ·578
	Ascites.	4	4				
	Rheumatismus.	439	7	429	7	6 ·891	1 ·631
Venereal affections...	Syphilis prim...	83	0	168	0	2 ·700	0 ·000
	,, consec....	8	0				
	Gonorrhœa.	20	0				
	Hernia humor..	54	0				
	Strictura ureth.	3	0				
Specific diseases.....	Lepra..........	5	0	35	4	0 ·562	11 ·428
	Atrophia.......	23	4				
	Burning of the feet..........	2	0				
	Scrophula......	5	0				
Diseases of the eye...	Morbi oculorum	46	0	46	0	0 ·739	0 ·000
Do. skin..	,, cutis....	463	0	463	0	7 ·441	0 ·000
	Other diseases..	1,514	3	1,544*	3	24 ·815	0 ·194
	Total.....	4,355	65	4.355	65	69 ·993	1 ·492

* Of this number 409 were Phlogosis and 2 deaths; ulcers 727 and 1 death.

NOTE.—Per centage of deaths to strength 1·044.

Meteorological table for Penang, for the year 1836.

	Medium Temperature.			Thermometer. Maximum at			Minimum at			Number of days on which rain fell.	Quantity of rain.	Number of days on which there was thunder.	Number of days on which there was lightning.	Most prevalent winds.	Number of fair days.	Number of cloudy days.	REMARKS.
	6 A. M.	3 P. M.	8 P. M.	6 A. M.	3 P. M.	8 P. M.	6 A. M.	3 P. M.	8 P. M.								
January..	$71\frac{2}{3}$	$83\frac{1}{2}$	80	76	86	82	74	79	75	7	$4.8\frac{1}{2}$	2	5	N. & W.	24	7	Generally cool and pleasant.
February.	75	$85\frac{2}{3}$	$81\frac{1}{4}$	75	87	84	74	84	79	1	$2.8\frac{1}{2}$	1	1	N. & W.	28	1	Warm with a want of rain.
March....	$74\frac{2}{3}$	$83\frac{5}{6}$	$72\frac{2}{3}$	76	87	82	74	78	74	11	$9.7\frac{3}{4}$	14	22	N. E. & W.	20	11	First half of the month fair, the latter squally from the N.E.
April.....	$75\frac{1}{3}$	87	$77\frac{1}{5}$	77	$88\frac{1}{2}$	86	75	84	76	12	$6.1\frac{1}{4}$	12	12	N. & E.	18	12	Weather very changeable and uncertain.
May......	$74\frac{2}{3}$	$87\frac{1}{10}$	$82\frac{1}{3}$	77	89	86	75	85	79	6	$5.\ \frac{1}{2}$	4	7	N. & W.	25	6	A drier month than it usually is.
June.....	$75\frac{1}{10}$	$83\frac{5}{6}$	$80\frac{1}{5}$	76	89	82	75	77	76	7	6. 6	5	11	N. & W.	24	6	
July......	$74\frac{2}{3}$	84	$80\frac{1}{3}$	76	87	84	$73\frac{1}{2}$	75	76	14	$12.4\frac{3}{4}$	1	2	N. & W.	19	12	
August...	$74\frac{5}{6}$	$84\frac{1}{2}$	$78\frac{1}{10}$	76	87	82	74	82	75	10	$9.0\frac{3}{4}$	2	2	N. & W.	20	11	Very changeable weather.
Sept.	75	$83\frac{1}{10}$	81	76	87	82	74	78	78	6	8. 1	0	0	S. & W.	24	6	
October...	$74\frac{1}{2}$	$83\frac{1}{6}$	75	77	86	81	73	78	76	15	$11.1\frac{1}{4}$	4	6	N. & W.	16	15	Cool and agreeable.
November	$71\frac{1}{3}$	$83\frac{1}{10}$	$78\frac{2}{3}$	75	86	80	73	75	76	18	$14.9\frac{3}{4}$	3	4	N. & W.	12	18	
December	$75\frac{3}{10}$	85	$80\frac{2}{3}$	76	87	83	74	77	77	5	$3.4\frac{1}{2}$	0	0	N. & W.	26	5	A warm and dry month.
	$71\frac{1}{2}$	$84\frac{1}{5}$	$79\frac{1}{4}$	77	89	86	73	77	74	122	$94.4\frac{1}{2}$	48	72		256	110	
Average of the year.		$79\frac{1}{11}$			84			74									

N. B. These observations were made on the northern beach, at a few feet above the level of the sea.

Fall of rain for four years, on the northern road, Penang.

		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
	1833	0 ·9	3 ·8½	1 ·9½	5 ·4½	3 ·2½	9·7½	3 ·9	6 ·3	6 ·1¾	10 ·6½	5 1¼	5 ¼	62 ·3¾
	1835	5 ·9¼	2 ·4	6 ·1	6 ·6	7 ·5	4 · 8	6 ·7¾	10 ·6	12 ·9½	13 ·4½	9 ¼	3 ·4¼	83 ·6¼
	1836	4 ·8½	2 ·8½	9 ·7¾	6 ·1¼	5 ½	6 ·6	12 ·4¾	9 ¾	8 ·1	11 ·1¼	14 ·9¾	3 ·4½	94 ·4½
	1837	1 ·7	1 ·2½	3 ·3	10 ·5¼	2 ·1¾	8 ·6	4 ·2¾	14 ·8¼	11 ·8	14 ·2½	6 ·1¼	4 ·9¼	83 ·7¾
Average..		3 ·3	2 ·5	5 ·2	7 ·1	4 ·4	7 ·4	6 ·8	10 ·2	9 ·5	12 ·3	8 ·8	4 ·2	82

Return of sick in the convict hospital at Penang, for 1837 *and* 1838.

	1837.												1838.											
	1st Quarter.			2d Quarter.			3d Quarter.			4th Quarter.			1st Quarter.			2d Quarter.			3d Quarter.			4th Quarter.		
Average number of convicts.	904.			919.			937.			931.			909.			921.			928.			916.		
DISEASES.	Admitted.	Discharged	Died.	Admitted.	Discharged	Died.	Admitted.	Discharged	Died.	Admitted.	Discharged	Died.	Admitted.	Discharged	Died.	Admitted.	Discharged	Died.	Admitted.	Discharged	Died.	Admitted.	Discharged	Died.
Apoplexy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Asthma	0	0	0	1	1	0	0	0	0	1	0	0	1	1	0	1	1	0	0	0	0	3	2	0
Cholera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diarrhœa	1	1	0	1	1	0	0	0	0	0	0	0	1	1	0	1	1	0	0	0	0	0	0	0
Dropsy	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Dysentery	4	1	2	1	1	0	1	0	1	2	2	0	2	1	0	6	1	2	8	1	3	7	5	0
Dysuria	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Dislocation and sprain	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fracture	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	1	1	0	0	0	0
Fever: Continued	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0
Fever: Intermittent	17	15	1	24	23	0	17	16	0	21	18	0	20	16	1	15	10	1	26	22	0	38	31	1
Fever: Remittent	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hepatic affections: Hepatic acute	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
Hepatic affections: ,, chronic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hepatic affections: Icterus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Inflammation: Thoracic	2	2	0	1	1	0	2	0	1	3	2	1	2	0	1	1	0	1	0	0	0	1	0	1
Inflammation: External	7	6	0	4	2	0	3	1	0	5	5	0	5	4	0	1	1	0	7	4	0	7	7	0
Inflammation: Enteritic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mania	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ophthalmia: Acute	2	0	0	3	2	0	2	2	0	3	2	0	3	3	0	3	2	0	1	1	0	3	2	0
Ophthalmia: Chronic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Phthisis Pulmonalis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rheumatism	16	10	0	33	31	0	13	9	0	12	9	0	10	7	0	8	5	0	10	5	0	12	8	0
Syphilis	0	0	0	1	0	0	4	1	0	3	2	0	1	0	0	4	3	0	1	1	0	3	2	0
Spleen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small Pox	0	0	0	0	0	0	0	0	0	1	0	0	3	3	0	0	0	0	0	0	0	0	0	0
Ulcers	11	4	0	20	1	0	36	27	0	33	21	0	25	19	0	26	13	0	42	27	2	18	12	0
Wounds	7	4	0	7	5	0	11	6	0	9	7	0	9	8	0	13	8	0	14	10	0	10	7	0
Other diseases	26	17	2	31	21	1	29	23	1	14	7	1	23	15	1	22	15	0	24	16	2	19	11	0
Leprosy	8	1	0	8	2	0	9	2	1	10	0	0	11	0	0	11	0	0	12	0	1	11	1	2
Total	101	61	5	137	92	2	127	87	4	118	75	2	118	79	4	112	63	4	148	89	8	131	90	4
Average number of sick per 100	8			11			9			2			8			8			11			9		
Average number of deaths to sick per cent.	3			$1\frac{2}{3}$			3			$1\frac{2}{3}$			$3\frac{1}{8}$			$3\frac{4}{7}$			$5\frac{1}{2}$			3		

The discrepancies which may be observed in this table, are owing to the original column of those who remained in hospital previous to the formation of the table, being omitted.

Return of sick in the native pauper hospital at Penang, for 1837 *and* 1838.

DISEASES.	1837.																1838.															
	1st Qr.				2d Qr.				3d Qr.				4th Qr.				1st Qr.				2d Qr.				3d Qr.				4th Qr.			
	Remained.	Admitted.	Discharged.	Died.	Remained.	Admitted.	Discharged.	Died.	Remained.	Admitted.	Discharged.	Died.	Remained.	Admitted.	Discharged.	Died.	Remained.	Admitted.	Discharged.	Died.	Remained.	Admitted.	Discharged.	Died.	Remained.	Admitted.	Discharged.	Died.	Remained.	Admitted,	Discharged.	Died.
Apoplexy	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Asthma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0
Cholera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diarrhœa	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dropsy	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	1	0	1	0	0	1	0	0	1	0	0	1	0	0	0	0
Dysentery	0	1	0	1	0	2	1	1	0	5	1	4	0	1	0	0	1	0	0	1	0	4	1	2	1	2	0	2	1	3	0	3
Dysuria	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dislocation and sprain	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fracture	0	0	0	0	0	0	0	0	0	2	1	0	1	1	1	0	1	0	1	0	0	1	0	0	1	2	1	0	2	1	2	0
Mania	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fever..... Continued	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	1	0	1	0
Fever..... Intermittent	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	2	1	0
Fever..... Remittent	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hepatic affection. Hepatitis acute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hepatic affection. ,, chronic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hepatic affection. Icterus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Inflammation.... Thoracic	0	1	0	1	0	1	0	0	1	2	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Inflammation.... External	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Inflammation.... Enteritic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ophthalmia. Acute	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	1	7	6	0
Ophthalmia. Chronic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Phthisis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rheumatism	2	2	2	1	1	3	2	0	2	0	2	0	0	1	0	0	1	1	0	0	2	0	1	0	1	2	2	0	1	4	4	0
Syphilis	0	2	0	0	1	1	1	0	1	3	3	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Spleen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small Pox	0	0	0	0	0	1	0	1	0	1	0	0	1	2	2	0	1	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0
Ulcers	26	11	16	6	14	15	11	3	14	18	18	1	13	7	8	0	12	5	7	2	8	9	8	1	8	5	1	1	11	4	6	1
Wounds	0	2	0	2	0	6	5	1	0	7	2	1	4	5	6	1	2	3	3	0	2	14	10	0	6	5	10	0	1	4	2	1
Other diseases	13	12	12	4	9	12	6	1	14	13	6	3	18	7	6	8	11	6	3	2	12	5	4	1	12	18	12	2	16	4	8	3
Leprosy	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Total....	43	33	33	16	25	43	27	8	32	55	36	12	39	25	26	9	30	17	16	6	25	36	27	4	20	38	26	7	35	31	32	9
Average number of deaths to sick per cent..	20				11				14				14				12¾				6⅔				16¼				13½			

Remarks.

The great mortality observed in the present table, may be accounted for by the size of the native pauper hospital allowing only the admission of patients labouring under disease in its most severe form.

Abstract of the weather on the Great Hill, Penang, for the year 1829.

	6 A. M.	3 P. M.	9 P. M.	Medium temperature of the whole month.	Maximum of the month.	Minimum do.	Range during the month.	Greatest daily range.	Least do. do.	Number of days on which thunder and lightning are noted.	Number of days on which rain fell.	Prevailing winds during each month, with the number of days on which it blew in each direction. E.	W.	S.	N.	N. E.	N. W.	S. E.	S. W.	Variable.	Calm.	REMARKS.
January...	67°	72° $\frac{1}{2}$	68° $\frac{3}{4}$	69° $\frac{1}{3}$	75° $\frac{1}{2}$	64°	11° $\frac{1}{2}$	9°	2°	5	12	13	7	0	2	5	5	0	0	0	0	In the early part hot and oppressive; latterly cool.
February.	68	73	69 $\frac{1}{3}$	70	75	65 $\frac{1}{2}$	9 $\frac{1}{2}$	8	1	6	13	8	7	0	4	4	2	1	1	1	0	Throughout dry and pleasant.
March....	69 $\frac{2}{3}$	75	70 $\frac{1}{2}$	71 $\frac{2}{3}$	77	68	9	9	1	17	15	5	4	4	0	7	4	4	0	3	0	Forenoon and nights sultry aud oppressive, occasionally much rain.
April......	70	74 $\frac{2}{3}$	71	71 $\frac{2}{3}$	77	67	10	7	2	10	20	0	14	3	0	0	5	4	1	3	0	Variable. F. noon oppressive. Heavy rain at night.
May......	70	74	70 $\frac{2}{3}$	71 $\frac{1}{3}$	78	67 $\frac{1}{2}$	10 $\frac{1}{2}$	8	2	4	22	0	20	3	0	0	2	4	2	0	0	Squally and rains throughout.
June......	70	74 $\frac{2}{3}$	71 $\frac{1}{2}$	71 $\frac{2}{3}$	77	68	9	7	1	2	12	0	10	8	0	0	2	3	4	3	0	Dry. Nights cool.
July......	68 $\frac{2}{3}$	72 $\frac{1}{2}$	69 $\frac{1}{3}$	70 $\frac{1}{6}$	76 $\frac{1}{2}$	66	10 $\frac{1}{2}$	7	1$\frac{1}{2}$	1	15	0	17	2	0	0	5	5	1	1	0	Cool and pleasant. Much rain at night.
August...	68 $\frac{2}{3}$	73	70	70 $\frac{1}{3}$	76	66 $\frac{1}{2}$	9 $\frac{1}{2}$	7	1$\frac{1}{2}$	6	21	0	12	3	0	0	6	3	6	1	0	Do. do. Much rain.
Sept.	69	73	69 $\frac{2}{3}$	70 $\frac{1}{3}$	75 $\frac{1}{2}$	67	8 $\frac{1}{2}$	6$\frac{1}{2}$	1	6	16	0	15	3	0	0	4	4	3	1	0	Cool, cloudy and pleasant.
October...	68	73	69	70	75	63 $\frac{1}{2}$	11 $\frac{1}{2}$	7	0	4	25	1	18	0	0	0	8	1	0	3	0	Monsoon weather; much rain; cool.
Nov.......	67	71	68	69	73 $\frac{1}{2}$	62	11 $\frac{1}{2}$	8	1	3	19	6	2	2	5	0	6	5	0	3	0	Delightfully cool. Heavy rain at night.
December	67	71	68 $\frac{1}{2}$	69	73	64	9	8	2	4	13	2	2	3	6	3	9	0	4	2	0	Throughout dry and cool. Morning breeze bracing and refreshing.
Average for the whole year......	68° $\frac{1}{3}$	73°	69° $\frac{3}{4}$	70°	75°	65°	10°	9°	1$\frac{1}{4}$	68	203	35	128	31	17	19	58	31	22	21	0	Medium temperature of the year 70$\frac{1}{3}$°

Fall of rain on Government Hill, Penang, for three years.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
1835	9·5	0·5½	5 ½	3·9	9·6	7·1½	14·7	15 ½	17·6	19·5	7·6	3·9	114·1
1836	4	2·2	10·7	2·8	3·9	5·8	12·2	9·7	10·1	15·3	22·9	1·9	101·5
1837	0·6	1·2	8	17·7	13·2	13·5	3·3	18·4	19·1	19·9	17·4	6·5	138·8
Average..	4·7	1·3	7·8	8·1	8·8	8·8	10	14·3	15·6	18·[illegible]	15·9	4·1	118·1

PROVINCE WELLESLEY.

Province Wellesley. The following brief remarks, on Province Wellesley, are chiefly taken from the report of Dr. Ward, published in 1830; since which time, owing to its not being occupied by our troops, except at occasional short intervals, no additional information regarding the country, beyond a census of the population for 1838, has been procured.

This small province, forming part of the Queddah coast, opposite to the island of Penang, was ceded to the British in 1800, by the king of Queddah, and is in length about 30 miles, and breadth 3 miles in-land. It was at that time

covered with jungle, and very thinly inhabited, but has now a population of upwards of 50,000 souls ; and there are about 25,000 square acres of land under cultivation, with rice, pepper, sugar, spices, indigo &c.

Climate. Although the strait separating the province from Penang, is but $2\frac{1}{2}$ miles broad, the climate differs materially in some respects, from that of the island ; the land and sea breezes are more regular ; it is not so much subject to the oppressive calms, and damp heated atmosphere ; and is therefore cooler, and the air feels fresher, and more invigorating. The medium temperature is said to be 2° lower, than on the island, the maximum heat being 87°, the minimum $79\frac{1}{2}^{\circ}$.

The dry season includes December, January, February, and March, and less rain falls on the coast, than on the island. The prevailing diseases do not differ materially from those of Penang, but fever is more frequent and severe, and the detachments of native troops, which have occasionally been sent to aid the police, have suffered from intermittent fevers, to a greater or less extent.

Census of the Population of Province Wellesley for the year 1838.

Year.	Malays.	Chinese.	Chuliahs.	Siamese.	Bengalese.	Fluctuating.	Total.
1838	44,350	2283	430	454	554	800	48,871
1839—Estimated present population	....	....	....	....	....	....	50,000

Estimated area of the Province—square miles........150

Estimated number of square Acres in Cultivation with rice and other intertropical products, such as sugar, spices, indigo, &c. &c. } 24,000

SINGAPORE.

General description.

Singapore, an island in the straits of Malacca, at the south-east extremity of the Malayan peninsula, from which it is separated by a narrow strait, is situated in north latitude 1° 15″, and east longitude 104°. A british settlement was formed here in the year 1819, under the superintendence of the late Sir Stamford Raffles, governor of Bencoolen.

The island is about sixty miles in circumference, containing an area of 1,423,000 acres of land, its interior exhibiting a succession of hills and dales, covered with dense forest ; but the only hill of any considerable elevation, is *Bukit Tinra,* or the tin hill, near the northern coast, which is isolated, barren and about 1200 feet in height.

The interior of the island is but little known to Europeans, but there is a small independent Chinese settlement a few miles distant from the town, from whence supplies are brought to the bazaar.

Soil and geological features.

The soil near the town is of a sandy nature, but in the interior, it is well adapted for the growth of the most valuable articles of oriental produce. The sub soil, is chiefly lateritious or a reddish clay, intermixed with beds of gray marl. The rocks are sandstone and conglomerate, the sandstone appearing exposed on some head lands on the coast, much broken and dislocated, by the action of some disturbing power.

Singapore being a penal settlement, the convicts sent here are employed in making roads into the interior, which when completed will lead to much improvement. The grounds near the town are laid out in gardens by the Chinese, a most industrious race, who grow abundance of vegetables and

Nutmeg Plantations.

fruit ; and have also many nutmeg plantations, situated upon the hills, from which the jungle has been cleared

away; towards the interior, some spots have likewise been cleared by them, on which they cultivate gambeer.

Creeks. There are several small creeks, or inlets of the sea, throughout the island, particularly on the east side, by which the rains, that fall so abundantly throughout the year, find a ready outlet to the sea. The creeks and swampy grounds are cleared out by the rise and fall of the tide, and are thereby kept free from decaying vegetable matter, which would otherwise be a productive source of miasmata.

Monsoons. Both monsoons, extend their influence to the straits, the north-east commencing about the 15th October, and continuing until the setting in of the south-west, about the middle of April;—rain is never very constant, but it usually comes on in heavy squalls, lasting from one, to five hours, the average quantity of rain during the year, is about 90 inches.

Climate. The climate of Singapore though sultry, is not unhealthy, and the vapours, or miasmata arising from the marshes and swamps, do not seem to exert an injurious influence on the health of the inhabitants.

The atmosphere is in general extremely moist, and the sky overcast; though when the sun shines out, it does so with great power, and its effects are enervating;—at night dense fogs spread over the island, and at particular seasons, the dews are heavy.

The thermometer seldom rises higher than 86°, or falls below 70°, nor does it vary more than 4° or 5°, in the 24 hours.—To the feelings, the air is agreeable, as, on account of its moisture, the unpleasant sensations caused by a high temperature are moderated, and the climate agrees well with the European constitution.

A meteorological table for the year 1830, is here given.

Months.	Medium temperature for the whole month.	Maximum.	Minimum.	Number of days on which rain fell.	Prevailing winds.
January..........	78° 31'	84°	74°	25	N. &. N. W.
February..........	79 46	86	76	16	N. E. &. S. E.
March..........	80 23	88	75	17	S. &. S. E.
April..........	81 23	88	76	13	S. W.
May..........	81 29	86	77	13	W. &. S. W.
June..........	81 58	87	75	17	W. &. S. W.
July..........	80 51	88	75	13	S. &: S. E.
August..........	80 20	86	75	23	S. E. &. S.
September.......	79 22	85	74	15	S. & S. W.
October..........	78 30	86	75	12	W. &. N. E.
November.......	76 43	85	75	21	S. &. S. W.
December.......	78 34	84	75	23	N. &. N. E.

Mean temperature for the year 79½°.

The average maximum and minimum of the thermometer, from July till the end of December 1843, is shown in the annexed table.

Months.	Maximum.	Minimum.
July................	85°	80°
August..............	86	80
September...........	86	76
October.............	82	78
November............	83	77
December............	82	77

Prevailing diseases of the troops.

The prevailing diseases are rehumatism, and fevers principally of the quotidian type, and these complaints are most frequent amongst the native troops, and may generally be traced to exposure on duty at night. The health of the sepoys likewise becomes impaired, from using a less generous diet, than they were previously accustomed to, mutton and beef not being procurable. Ulcers of a grave

character, are common about the changes of the monsoons, when the weather is sultry, and the frame relaxed, a condition of the atmosphere, which produces a disposition in common sores, to take on an unhealthy, and often gangrenous action; and it is doubtless aided by the state of the constitution mentioned.

Town of Singapore. The town, which is rapidly extending, stands on the south side of the island, close to the shore, where the land is only a few feet above high water mark; the mercantile part runs along the western side of an inlet, of about 300 feet wide, which penetrates a short way inland; across the inlet a long narrow wooden bridge has been thrown, about three hundred yards from its mouth, forming a communication with the suburbs, and a good road runs to the military lines, distant about a mile and a half.

The streets are irregular, and many of the houses are built of brick, but those in the outskirts, occupied by Chinese, Klings and other native shopkeepers, are chiefly of wood and thatched. On the eastern side of the inlet, a good road runs along the shore to a village called "Campong glam," one mile and a half from Singapore, occupied by a population of about 4000 Chinese, Bugis, Malays, and Javanese. From this the road strikes a short distance into the country, and returns with a sweep to the town; on the side fronting the sea, are the houses of the principal Europeans, some of which are large and handsome buildings, and this, called the "Circular road," forms the usual evening drive.

Government house stands on the top of a hill at the back of the town, from whence there is a fine commanding prospect, a signal house is also situated on the same eminence; and at the foot of the hill are the remains of a botanical garden, planted by the founder of the settlement, in which are several flourishing nutmeg trees. In the centre of what is called *the Marina*, is the institution, a handsome building, founded by Sir Stamford Raffles, and supported by charitable contributions, for the education of the different

classes of native children. There are also two jails close to the town, a church, court house, and a police office.

Vegetable productions. The chief productions of the island are pepper, areca and cocoanuts. The market is well supplied with fruit, imported chiefly from Malacca, amongst which is the mangosteen, and the dorean, the latter a very favorite fruit amongst the Malays; in appearance it closely resembles the jack fruit, but smells strongly of assafœtida. Fungous plants of an extraordinary size, resembling immense vases, are found on the salt swamps, some of which are capable of containing half a barrel of water, and from their appearance are commonly called " Neptune's cups."

Markets. Singapore is well supplied with fish, turtle, rock oysters, poultry and ducks; and beef is occasionally to be had in the market. Sheep are brought from Bengal, and mutton is consequently very expensive, 10 Spanish dollars being the average price of a sheep.

Draft buffaloes are procured from Malacca, and ponies from Sumatra and Java.

Wild Animals. The chief wild animals are hogs, deer, and tigers which are numerous and ferocious, the inhabitants being frequently carried off by them; and aligators are also numerous, and of large size.

White Ants. The white ant is of large size, and particularly destructive.

Harbour. The harbour of Singapore is safe, easily approached, and well sheltered, being an entre-port between China and the eastern Islands, and the rest of the world; a direct trade is also carried on with many places.

Trade. The Malays and Chinese purchase large quantities of british manufactured goods, which they exchange for the produce of the different islands, to be re-exported to England, India and other parts of the world.

Population. Singapore in 1840, had a population of upwards of twenty thousand souls, composed of people belonging to all the neighbouring countries and islands, the majority however being Chinese; the Malays form but a small portion of the inhabitants, and reside in villages on the coast, or on the inlets. They subsist chiefly by fishing and piracy.

Local Government. The local government is administered by a Resident counsellor, who is permanently stationed at the settlement.

Military Forces. The military force usually consists of a wing of a native regiment of infantry, and half a company of native artillery.

Cantonment. The cantonment for the troops, is situated a mile and a half south south-east of the town, a range of small rounded hills, separating it from the sea. The huts of the men are mere sheds, and as the floors are not raised from the ground, benches, or sleeping places, have been provided for them, to prevent the injurious effects of damp floors.

The situation of the lines is faulty, in their being nearly on a dead level, rendering efficient drainage impracticable, though a piece of gently sloping ground adjacent, used as the parade, would have afforded an eligible site.

The place of arms, guard room, and hospital are in the immediate vicinity, and are substantial brick and chunam buildings. Hospital The hospital is tiled, and very spacious, measuring 115 feet by 45, it has four small verandah rooms, one of which is used as a dispensary, and is surrounded by a strong wooden fence, forming a court within of considerable extent; the sick are all supplied with cots.

Officers houses. The officers bungalows, are erected on the summits, of some small hills around the lines; they are open and airy, commanding a view of the sea, from which they are distant, from a quarter to half a mile; the jungle reaches to within about 40 yards of the lines, on the northern side, but

in every other direction the ground is clear and open for a considerable distance.

Artillery lines. The artillery are stationed close to the western point or entrance of the inlet, near the town, where there is a saluting battery.

Naval force. The naval force usually consists of a sloop of war.

Sickness on the 4th Regiment M. N. I. in 1843. The 4th regiment madras native infantry having suffered considerably in 1843, from sloughing ulcers, and other diseases arising from an impaired state of the constitution, the following observations are extracted from the medical report of the corps for that year, as elucidatory of the nature of these complaints, and their causes.

Prevailing diseases. "Fevers of the ephemeral and quotidian types, rheumatic affections, and phagedenic ulcers, are the diseases most prevalent; under the head of rheumatism however, are included several cases of burning of the feet, which is accompanied with a dry and glazed condition of the skin; none of the cases of fever have presented any thing remarkable, some proved rather tedious, but yielded to the use of quinine, and other tonics."

Rheumatism. "Many cases of rheumatism have occurred, of a very troublesome description, especially when combined with the symptoms above noticed; viz. burning sensation in the soles of the feet, and dry and glazed skin, this affection occurs either with or without true rheumatic pains, and no particular causes can be assigned, to account for it. The patient on presenting himself for admission into hospital, has an anxious expression of countenance, which is often puffy, with a yellowish tinge of the conjunctivæ, the bowels are disordered, and the appetite bad; the skin is invariably harsh, dry and glazed, and eventually desquamates; and no such cases derive any permanent benefit from medical treatment here, they have therefore, always been sent to Madras."

Ulcers. "Phagedenic ulcers which have committed great ravages, commenced about the begining of the month of September 1843, and continued to increase up to the end of November, when the cases became less numerous and severe. In short, when the health of the men began to suffer from the circumstances hereafter noticed, the ulcers became numerous, and assumed a phagedenic character. The worst description of ulcer was generally situated about the lower third of the leg, or on the ankle and foot, and usually proceeded from some slight external injury, or from the pustules of itch; on admission the expression of countenance was anxious, the tongue white and flabby, bowels irregular usually relaxed, skin cold, and clammy, pulse quick and weak, and the lower limbs frequently somewhat œdematous. The patients complained of burning or stinging pain in the sore, which was usually of a round form, and excavated; if the strength could bear it, purgatives, usually calomel and jalap, were administered on admission, soothing remedies being applied to the sores. After the intestinal canal had been cleared of its unhealthy secretions, camphor mixture, and liquor ammoniæ acetatis, with tincture of opium, and iodide of potassium (from 8, to 12 grains daily) were given. On the separation of the sloughs the strength was supported by as nourishing a diet as could be procured, with wine, beer and other tonics"

"The local remedies found most useful in promoting the separation of the sloughs, were wheat or rice flour poultices, the surface being sprinkled with pulvis cinchona, or charcoal powder; and also the fermenting and pumpkin poultices, which appeared to answer well in many cases. The sore was occasionally washed with a solution of nitric acid, in the proportion of 1 part to 8 of water, and after the separation of sloughs, a weak solution of nitric acid in water, or a solution of some of the metallic salts, was found useful in promoting cicatrization. When the surface of the sore, was not very extensive; many patients did well under this mode of treatment. A considerable number of sores however, fell

into an indolent condition, and the usual remedies lost their effect, in such cases the application of creosote was attended with much advantage, producing healthy granulations in a short time, and though it had not the effect of stopping the sloughing process, or preventing its extension, it was certainly useful as an application to indolent ulcers. It may either be applied on the surface of a poultice, or made into an ointment, with burgundy pitch, and used as a dressing for the sore."

"Several cases advanced to a fatal termination, the patients either sinking from the effects of constitutional irritation, or being reduced to a state of excessive debility, were carried off by colliquative diarrhœa, after the sloughs had separated. In two cases amputation was performed, the first patient did well, and has since proceeded to Madras; the second died on the fourth day after the operation, and the ill success of this, made such an unfavourable impression on the minds of the men, that they would not submit to be operated upon, afterwards."

"A few slight cases of diarrhœa and dysentery have occurred, but they presented nothing worthy of remark; very few men in the regiment are free from itch, which may be attributed to want of cleanliness, as well as to a diet consisting too much of fish."

Dracunculus. "Previous to the departure of the regiment from Madras, in April 1843, a few cases of dracunculus occurred, when stationed at Vepery, and continued to appear in the various detachments on board ship, and after arrival at Singapore, up to the month of August. In whatever manner this parasite makes its way into the human body, there can be no doubt of its having existed in some condition or other, in several of these cases, for a period of at least four months, previous to making its appearance externally; dracunculus being unknown amongst the inhabitants of Singapore."

Causes of sickness in the regiment. "That the great increase of sickness amongst natives of India, does not arise solely from the

influence of a climate, the essential characteristics of which are, its moisture, and steadiness of temperature, is evident, from no endemic diseases prevailing at the settlement."

"The food of the sepoys consists of vegetables and fish, and the consequences of this meager and deficient diet, is apparent in the emaciated appearance of the greater part of the men, accompanied in many with pains in the limbs, and puffy and unhealthy countenances, betraying a want of tone in the system, and a serous condition of the blood."

"It has accordingly been found, that trifling injuries produce sloughing ulcers, and exposure to cold or wet, fever or diarrhœa; and although many continue to perform their routine of duty without complaint, any unusual exertion or exposure, would certainly cause them to become inmates of the hospital."

"At Singapore though fish and good vegetables are procurable, animal food is not by the sepoy, and such diet, which would in any climate be defective, if used for a continuance, is still more hurtful in a relaxing one like this."

"The Malays and Chinese are a strong and healthy race, but they use animal food of various kinds, such as the natives of India will not touch."

"From what has been stated, it will therefore be obvious, that a supply of animal food is requisite for the men, in order to keep a regiment in an effective condition, and as the sepoys means render it unattainable, it should be supplied to them, or placed within their reach; mutton and fowls might be readily furnished, the expense, would not be great, and the saving to the state, would in many ways counterbalance the outlay."

"The separation of the men from their families, exerts also a most prejudicial influence on their health. They leave large "family certificates" for their support, and become dispirited and apathetic, and with a view of saving for their

return home, many do not even spend the balance of the pay they receive."

"Out of 189 cases of ulcer, since the arrival of the regiment at Singapore, 133 occurred in young sepoys, of from one to four years service, their average ages being about 21 years ; and with respect to other diseases, the old and young, have as might be expected, suffered more than the middle aged."

No. 17.—*Table exhibiting the sickness and mortality amongst the native troops at Singapore, from* 1835 *to* 1841, *inclusive.*

Aggregate strength. 2524. CLASSES.	DISEASES.	Admissions.	Died.	Total admissions from each class.	Total deaths from each class.	Per centage of sick to strength.	Per centage of deaths to sick.
Fevers......	Febris ephemera	278	1	1303	16	51 ·624	1 ·227
	,, intermit quot.	742	12				
	,, tertiana......	111	1				
	,, remittens....	2	0				
	,, com: cont....	170	2				
	Cholera.........	0	0	0	0	0	0
Diseases of the abdominal viscera......	Diarrhœa......	196	9	313	9	12 ·400	2 ·875
	Dysenteria.....	18	0				
	Colica.........	70	0				
	Obstipatio......	9	0				
	Hæmorrhois...	2	0				
	Dyspepsia......	18	0				
	Hepatitis.......	5	1	5	1	0 ·198	20 ·000
Diseases of the lungs.	Catarrhus......	17	2	33	5	1 ·306	15 ·151
	Asthma.........	12	1				
	Phthisis pulmonalis.........	2	1				
	Pneumonia	2	1				
Diseases of the brain.	Apoplexia......	1	1	29	3	1 ·148	10 ·344
	Epilepsia.......	1	0				
	Paralysis.......	17	2				
	Amentia........	6	0				
	Ebrietas........	3	0				
	Delirium Tremens.........	1	0				
Eruptive fevers......	Variola.........	1	0	2	0	0 ·079	0 ·000
	Varicella.......	1	0				
Dropsies....	Anasarca	16	4	18	6	0 ·713	33 ·333
	Ascites..	2	2				
	Rheumatismus.	343	10	343	10	13 ·589	2 ·915
Venereal affections..	Syphilis prim..	20	0	32	0	1 ·267	0 000
	Gonorrhœa.....	6	0				
	Hernia humoralis...........	6	0				
Specific diseases.....	Lepra..........	2	0	42	3	1 ·664	7 ·142
	Dracunculus. ..	4	0				
	Atrophia.......	32	3				
	Scrophula......	4	0				
Diseases of the eye...	Morbi oculorum	34	0	34	0	1 ·347	0 ·000
Do. skin..	,, cutis......	270	1	270	1	10 ·697	0 ·370
	Other diseases..	593	3	593*	3	23 ·497	0 .505
	Total....	3017	57	3017	57	119 ·532	1 ·889

* Of this number 138 were Phlogosis, 305 ulcus.

NOTE.—Per centage of deaths to strength, 2·258.

MALACCA.

A comprehensive topographical account of Malacca, the most ancient and best known settlement on the Malayan peninsula, having been published by Dr. Ward, of the Madras Medical Establishment, in the year 1830, it is not considered requisite to enter into a particular description of a place, the history of which is already so fully given in the report alluded to ; and which has been printed and extensively circulated, throughout India, by order of the government of Penang.

Situation. Malacca is situated in N. Latitude 2° 14, and E. Longitude 102° 12, being distant about 300 miles from Penang, and 150 from Singapore ; the settlement was originally in the hands of the Portuguese, from whom it was wrested by the Dutch, and in the year 1795, it fell into the possession of the English, by whom it has ever since been retained. The country, in the interior, is a continued dense forest, through which there are not even foot paths to be found, and the boundaries of the district have not been laid down, little in fact being known of the interior, or of any other parts than the coast, and the borders of the Malacca river.

Town. The town of Malacca runs in a parallel line with the sea coast, the houses of the better class of inhabitants, are situated either quite close to, or upon the beach ; and the northern part is occupied by Malays, Klings and Chinese. The town itself is built on a flat sandy soil, and the gardens around and on the sea side, yield little beyond cocoanuts.

In the interior, a few small hills are to be seen, the base of which is laterite ; when fresh dug, it is soft, but on exposure to the air becomes quite hard, and the number of very old buildings to be seen, testify its great durability.

The town is bounded on the south by the sea, and on the E. and N. by the Malacca river ; the old fort situated to the

eastward of the town, was formerly a place of strength, but was razed in 1807, and the ditch filled up, the only part left standing, being some bastions, now in a ruined conditon.

Malacca river. The small stream called the Malacca river, runs in a winding direction into the interior, for about twenty miles, and is navigable during the rainy season for small boats, for about fifteen miles. There is an extensive tract of rice land, under cultivation along its banks, which produces luxuriant crops, and the river is also of great service,in draining the country. The water is brackish for some miles up, and its banks are low, and in part covered with jungle ; it has always a muddy appearance throughout its whole course. The inhabitants along the banks are few in number, and are employed in husbandry, and in felling timber for the Malacca market.

Produce. Rice and cocoanuts, are the chief vegetable productions of the place. The inhabitants are composed principally of malays, portuguese, and chinese ; the two former are a lazy indolent class of people, who when they have earned a little money, live in idleness till it is spent ; and when they have again collected sufficient to keep them in food for a few weeks, will work no longer ; the chinese on the contrary are a hard working class, but are much addicted to opium smoking.

Climate. From the end of November till the end of February, the prevailing winds are northerly; it usually rains during the whole of December, but fair weather succeeds in January and February, when the rice crops are cut down. In April the S. W. monsoon commences, and is succeeded by the N. E. monsoon, in November. During August and September, heavy gales from the Sumatra coast bearing S. S. W. are of frequent occurrence.

Land winds blow at night throughout the entire year, and the thermometer generally ranges from 76°, to 84°.

Abstract of the weather at Malacca, for the year 1828.

Months.	Medium temperature of the month. At 6 A. M.	At 3 P. M.	At 9 P. M.	Medium temperature of the whole month.	Maximum.	Minimum.	Monthly range.	Number of days on which rain fell.	Total quantity of rain during the month. in.	c, p.	Greatest daily quantity. in.	c, p.	Prevailing winds.
January,	75°	82°	78°	78⅔	86°	73°	13°	27	10				N. E. & S. W.
February,	77	85	79	80⅔	87	74½	12½	12	7	92	1	85	N. E. & S. W.
March,	77	84¼	79	80	87	74	13	19	9	8	2	75	N. E. & S.
April,	79	86¼	82	82⅛	88	76½	11½	11	4	33	1	40	W. S.
May,	79	86½	82	82½	88½	76	12⅛	13	6	85	1	70	S. E.
June,	76½	86½	81	81	89	74	15	7	4		1	30	S. E. & W.
July,	77	84	81	80⅔	87	74	13	12					W. & S. W.
August,	78	82	80	80	84	74	10	17	8	70	1	75	S. E.
September,	76⅓	82	78⅔	79	84	75	9	15	12	50	2	75	S. S. W.
October,	78	86	81	81⅔	86	75	11	14	9		2	25	N. W.
November,	77	82	79	79⅓	85	74	11	21	7	75	1	75	N. W.
December,	75½	82½	78½	79	85	72	13	20	9	25	1	35	N.

Endemic diseases. Of the endemic diseases most prevalent here, fever may be reckoned the principal; amongst the lower class of chinese, scrophulous ulcers are very common. The troops of late years have been healthy, and have not suffered from any particular sickness, slight fevers being the principal disease.

The most unhealthy time of the year is during the Sumatra gales, when the atmosphere is very moist.

No register of deaths or births is kept, either among the chinese, malays or portuguese.

During the months of June, July and August, a great many deaths have been observed to take place amongst dogs and poultry, but no other animals appear to suffer from it.

Hospital. The hospital for the troops at this place, has an upper and lower ward, with back verandahs to each, and a cook house for the men, in two divisions, each division containing ten fire places. The hospital faces N. and by E., looking towards the parade ground, an open space covered with green sward.

Barracks and lines for the troops. The barracks and lines for the troops, are situated about one hundred and fifty yards from the hospital. The barracks consist of only one room, in which the arms and accoutrements are kept, it is built of brick and chunam, with a tiled roof.

The sepoys huts are built of bark, in the native manner, and covered with atap; they run in six lines, of 156 feet in length and 30 feet breadth, having 12 divisions on each side, in each of which 4 men reside. The breadth of each division is 15 feet, and its length 12; in the lines are 3 wells of good water.

The native officers are provided with bungalows, one of which contains four rooms, another two, the former is occupied by four, and the latter by two officers; both are built of brick, with tiled roofs.

The privies are situated about 150 yards from the lines, on the edge of the river, there are 15 small rooms with a door to each, for the men, and a small one at a little distance, with one door, for the native officers, the whole are washed by the stream.

The detachment at Malacca, consists of from 350 to 400 men, of the native corps at Singapore, (which has of late been

made the head quarters station in the Straits,) and 40 golundauze or native artillery.

For several years past the troops have been very healthy, the chief complaints being intermittent fever of a mild character, and rheumatic affections. Cases of the phagedenic ulcer described by Dr. Ward, which prevailed so extensively in the 25th regiment Madras native infantry in 1827 and 28, are not now seen, though as at all the stations on this coast, ulcers are frequent and troublesome, all abrasions of the skin, being apt to run into ulceration, from the causes previously mentioned; viz. a cachectic state of the system induced by poor living, the peculiar moist nature of the climate, appearing also to be conducive to this disease.

Hot springs. Several hot springs are found in the interior, distant about 18 miles, one of which is at Sabang, near fort Lismore, and another in the Naming district. The springs at both these places, are situated in swampy flats, the water is of a bluish or greenish tinge, and from the bottom of the wells air bubbles rise, emitting a strong smell of sulphuretted hydrogen gas; they have not yet been analyzed. On introducing a thermometer into one of them, the mercury rose, in the space of one minute, to 130°.

These springs are very much resorted to by all classes of natives, for the cure of sprains, rheumatism, and a variety of local diseases, and baths have been built by subscription, at Ayer Punnas near Sabang, also a bungalow for Europeans, and a small barrack for the use of the sepoys; and there can be no doubt but many chronic cases of disease, would be much benefitted by a change from the coast, to the vicinity of the wells, and the use of the hot baths.

No. 18.—*Table exhibiting the sickness and mortality amongst the native troops stationed at Malacca, from* 1830 *to* 1841, *inclusive.*

Aggregate strength 4612. CLASSES.	DISEASES.	Admitted.	Died.	Totaladmissions from each class.	Total deaths. from each class.	Per centage of sick to strength.	Per centage of deaths to sick.
Fevers......	Febris ephemera	237	2	1316	35	28 ·534	2 ·659
	,, intermit quot.	854	20				
	,, tertiana......	28	0				
	,, remittens	102	6				
	,, com. cont....	95	7				
	Cholera........	0	0	0	0	0	0
Diseases of the abdominal viscera......	Diarrhœa	100	11	198	18	4 ·293	9 .090
	Dysenteria......	29	4				
	Colica..........	15	0				
	Obstipatio......	34	0				
	Hæmorrhois....	2	0				
	Dyspepsia......	18	3				
	Hepatitis......	0	0				
Diseases of the Lungs	Catarrhus......	41	3	53	7	1 ·149	15 ·094
	Hæmoptysis....	1	1				
	Asthma........	2	0				
	Phthisis pulmonalis..........	2	2				
	Pneumonia.....	6	1				
	Dyspnœa......	1	0				
Diseases of the Brain.	Apoplexia......	2	1	40	4	0 ·867	10 ·000
	Epilepsia.......	2	0				
	Paralysis.......	13	2				
	Amentia........	4	0				
	Mania..........	15	0				
	Tetanus........	1	1				
	Delirium trem.	3	0				
Eruptive fevers......	Variola.........	1	0	10	0	0 ·216	0 ·000
	Varicella.......	5	0				
	Erysipelas......	4	0				
Dropsies....	Anasarca......	65	22	74	26	1 ·604	35 ·135
	Ascites.........	9	4				
	Rheumatismus.	290	4	290	4	6 ·287	1 ·379
Venereal affections...	Syphilis prim..	26	1	63	2	1 ·366	3 ·174
	,, consecutiva..	14	1				
	Gonorrhœa.....	8	0				
	Hernia humoralis...........	13	0				
	Strictura urethræ..........	2	0				
Specific diseases.. ...	Lepra..........	2	0	92	18	1 ·994	19 ·565
	Beriberi..	7	1				
	Burning of the feet..........	11	0				
	Dracunculus....	2	0				
	Atrophia.......	57	17				
	Scorbutus......	5	0				
	Scrophula......	8	0				
Disease of the eye...	Morbi oculorum	59	0	59	0	1 ·279	0 ·000
Do. skin.	,, cutis......	398	1	398	1	8 ·629	0 ·251
	Other diseases..	867	2	867*	2	18 ·798	0 ·230
	Total....	3460	117	3460	117	75 ·021	3 ·381

* Of this number 154 were Phlogosis, Ulcus 482 with 2 deaths.

NOTE.—Per centage of deaths to strength, 2·536.

Concluding remarks.

The following series of tables from No. 1. to No. 10, comprehend the whole sickness and mortality amongst both European and Native armies, which have occurred during the period of ten years embraced in the preceding reports; and they also shew in a clear manner the diseases which have been most prevalent and most destructive amongst both bodies of men.

In the tables No. 3 and 4, the number invalided, pensioned or discharged are also given; and those not included under the diseases specified in these tables are given in the notes appended to each table.

The loss to the service annually by deaths from diseases is 4·568 per cent, amongst the Europeans, and including those invalided, the ratio is increased to 6·882.

Amongst the native troops No. 4, the per centage of deaths to strength averages annually 1·604, but including those removed from the effective service by pension, invaliding &c. the per centage is augmented to 3·638.

In this table it will be observed, that the number invalided under the heads *leprosy, and ulcer phagedenic* exceed considerably the admissions ; it appears that most of those under the former head would have been more properly placed under the head *general debility,* and the majority of the latter under the head *syphilis consecutiva.*

In conclusion the following statements are given to exhibit the relative healthiness of each of the several divisions of the army, as regards the ratio of sickness to strength, of deaths to sick treated, and of deaths to strength.

European Troops.

No.	Divisions.	Per centage of sick to strength.	Divisions.	Per centage of deaths to sick.	Divisions.	Per centage of deaths to strength.
1	Moulmein	143 ·488	Ceded districts	1 ·584	Mysore	2 ·803
2	Malabar	153 ·122	Nagpore	1 .632	Ceded districts	3 ·159
3	Centre	155 ·773	Mysore	1 ·718	Moulmein	3 ·739
4	Mysore	163 ·085	Presidency	2 ·302	Malabar	3 ·769
5	Southern	169 ·737	Southern	2 ·317	Southern	3 ·934
6	Northern	184 ·213	Malabar	2 ·461	Nagpore	3 ·937
7	Presidency	186 ·374	Moulmein	2 ·606	Presidency	4 ·291
8	Ceded districts	199 ·467	Hyderabad	2 ·895	Centre	5 ·570
9	Hyderabad	217 ·230	Centre	3 ·768	Hyderabad	6 ·289
10	Nagpore	241 ·194	Northern	5 ·509	Northern	10 ·151

Native Troops.

No.	Divisions.	Per centage of sick to strength.	Divisions.	Per centage of deaths to sick.	Divisions.	Per centage of deaths to strength.
1	Presidency	43 ·137	Nagpore	2 ·012	Presidency	1 ·099
2	Centre	49 ·353	Moulmein	2 ·056	Nagpore	1 ·255
3	Ceded districts	49 ·456	Mysore	2 ·109	Malabar	1 ·275
4	Malabar	57 ·036	Malabar	2 ·236	Moulmein	1 ·386
5	Hyderabad	57 ·351	Presidency	2 ·547	Mysore	1 ·415
6	Southern	60 ·099	Hyderabad	2 ·596	Hyderabad	1 ·489
7	Nagpore	62 ·387	Southern	2 ·890	Centre	1 ·539
8	Mysore	67 ·093	Northern	2 ·939	Ceded districts	1 ·613
9	Moulmein	67 ·416	Centre	3 ·120	Southern	1 ·737
10	Northern	88 ·245	Ceded districts	3 ·263	Northern	2 ·593

THE END.

GENERAL TABLES.

EUROPEAN TROOPS.

No. 1.—*Table exhibiting the half yearly admissions and deaths from the principal diseases, throughout the entire Army of Madras, during the period of ten years from 1829 to 1838 inclusive; the aggregate strength each year is also given, with the per centage of sick to strength, of deaths to sick treated, and of deaths to strength.*

Years.		Admissions & deaths.	Apoplexy.	Atrophy.	Beriberi.	Cholera.	Cutaneous diseases.	Delirium Tremens.	Diarrhœa.	Dysentery.	Elephantiasis.	Fever ephemeral.	,, continued.	,, intermittent.	,, remittent.	Guinea worm.	Hepatic diseases.	Insanity.	Leprosy.	Ophthalmy.	Rheumatism.	Small Pox.	Syphilis, &c.	Thoracic diseases.	Ulcer phagedenic.	Wounds and Injuries.	Other Complaints.	Aggregate strength each year.	Annual per centage of sick to strength.	Annual per centage of death to sick treated.	Annual per centage of deaths to strength.
1829	Admitted.. 1st half..	10205	6	0	0	185	0	10	485	986	0	0	670	547	500	0	752	22	0	559	610	0	647	337	0	887	3002	11,640	169·759	2·115	3·591
	Admitted.. 2d ,,	9555	13	0	9	54	0	3	311	1020	0	0	759	696	275	0	573	12	0	748	511	0	702	266	0	823	2780				
	Died...... 1st half..	211	2	0	0	29	0	2	3	72	0	0	6	5	12	0	26	3	0	0	4	0	2	14	0	2	29				
	Died...... 2d ,,	207	7	0	3	6	0	1	3	69	0	0	10	8	9	0	33	3	0	0	5	0	5	15	0	4	26				
1830	Admitted.. 1st half..	8394	11	0	2	202	0	0	266	874	0	0	590	477	250	0	613	18	0	522	487	0	607	227	0	745	2503	11,623	156·001	2·062	3·217
	Admitted.. 2d ,,	9738	10	3	8	88	0	1	367	1122	0	64	963	532	402	0	607	9	0	586	483	0	615	238	0	813	2797				
	Died...... 1st half..	177	3	1	1	41	0	0	2	34	0	0	6	5	6	0	28	1	0	0	5	0	0	11	0	1	32				
	Died...... 2d ,,	197	3	2	0	4	0	1	10	82	0	0	4	7	7	0	32	0	0	0	3	0	0	13	0	4	25				
1831	Admitted.. 1st half..	8120	15	0	7	95	0	0	277	795	0	113	658	320	424	0	677	10	0	261	414	0	626	243	0	823	2662	10,863	166·408	2·649	4·109
	Admitted.. 2d ,,	9657	10	0	5	194	0	2	624	1059	0	77	777	495	472	0	652	10	0	495	448	0	663	241	0	757	2676				
	Died...... 1st half..	191	6	0	1	20	0	0	6	46	0	0	9	2	6	0	29	0	0	0	3	0	2	13	0	3	45				
	Died...... 2d ,,	288	4	0	2	71	0	1	9	80	0	0	7	4	10	0	32	0	0	0	7	0	3	17	0	1	40				
1832	Admitted.. 1st half..	7984	4	0	13	208	0	11	241	660	0	81	729	297	280	0	565	16	0	286	388	0	689	228	0	831	2457	10,580	164·272	3·371	5·538
	Admitted.. 2d ,,	9396	9	2	6	320	0	7	550	866	0	127	1054	372	200	0	524	30	0	463	392	0	801	391	13	811	2458				
	Died...... 1st half..	230	3	0	3	57	0	2	8	50	0	0	6	4	3	0	39	1	0	0	4	0	1	14	0	4	31				
	Died...... 2d ,,	356	6	1	3	166	0	0	14	46	0	0	17	0	1	0	35	0	0	0	3	0	2	17	2	0	37				
1833	Admitted.. 1st half..	10319	24	34	0	849	0	0	557	875	0	116	1120	242	194	0	512	19	0	333	442	0	1132	426	0	785	2659	9,853	207·114	3·395	7·033
	Admitted.. 2d ,,	10088	12	4	2	117	0	2	407	1201	0	149	801	673	295	0	511	13	0	361	364	0	1520	243	0	681	2729				
	Died...... 1st half..	386	19	11	1	191	0	0	10	55	0	0	9	4	4	0	21	1	0	1	4	0	2	13	0	2	38				
	Died...... 2d ,,	307	7	2	0	42	0	1	15	101	0	4	11	7	15	0	30	2	0	0	1	0	3	17	0	5	44				
1834	Admitted.. 1st half..	9063	12	7	2	78	38	248	500	715	0	121	1032	587	128	23	596	13	0	260	379	0	1603	310	0	728	1683	9,321	237·002	2·648	6·276
	Admitted.. 2d ,,	13028	14	6	5	52	83	459	633	1336	0	205	1098	2991	393	5	544	17	1	306	478	0	1414	400	0	718	1880				
	Died...... 1st half..	192	7	3	0	7	0	7	6	53	0	2	13	6	6	0	24	2	0	0	4	0	3	19	0	5	25				
	Died...... 2d ,,	393	12	3	1	7	0	4	24	135	0	1	15	34	36	0	42	0	0	0	9	0	5	18	0	3	44				
1835	Admitted.. 1st half..	8836	5	12	0	25	103	366	265	567	0	153	638	1348	70	6	480	14	0	216	490	1	1248	358	1	762	1708	9,484	193·483	1·722	3·331
	Admitted.. 2d ,,	9514	6	3	1	35	87	520	321	653	0	205	616	958	72	5	504	2	0	283	647	0	1417	396	2	710	2041				
	Died...... 1st half..	146	4	0	0	1	0	4	9	46	0	0	13	5	5	0	17	1	0	0	2	0	0	15	0	2	22				
	Died...... 2d ,,	170	1	2	1	1	0	3	5	57	0	1	10	6	6	0	18	0	0	1	5	0	6	16	0	3	28				
1836	Admitted.. 1st half..	8262	14	8	0	16	90	417	293	506	0	121	518	401	72	1	528	12	0	180	638	2	1278	371	1	724	2071	10,201	174·355	1·956	3·411
	Admitted.. 2d ,,	9524	2	3	0	20	80	368	354	963	0	128	781	766	78	2	552	15	0	381	714	1	1394	383	1	660	1875				
	Died...... 1st half..	136	7	1	0	0	0	11	5	37	0	0	2	5	5	0	19	0	0	0	4	0	2	15	0	2	21				
	Died...... 2d ,,	212	1	1	0	3	0	1	5	89	0	0	10	8	5	0	24	2	0	1	7	0	4	18	0	6	27				
1837	Admitted.. 1st half..	8059	17	6	0	32	66	297	279	738	0	93	786	368	64	5	550	15	0	179	677	4	1256	304	1	592	1730	10,068	174·116	3·114	5·423
	Admitted.. 2d ,,	9171	9	4	0	141	108	254	462	1078	0	117	1113	505	68	4	543	17	0	254	696	0	1183	414	3	582	1916				
	Died...... 1st half..	244	12	2	0	15	0	9	4	94	0	0	10	5	4	0	32	1	0	1	7	1	4	18	0	4	21				
	Died...... 2d ,,	302	5	1	0	57	1	3	11	115	0	0	15	6	4	0	27	1	0	2	8	0	7	16	0	0	23				
1838	Admitted.. 1st half..	9357	9	5	1	67	102	167	467	670	0	124	1379	299	50	1	525	4	0	153	761	1	1363	599	2	625	1983	9,798	177·097	2·189	3·878
	Admitted.. 2d ,,	7995	3	9	0	55	89	131	510	755	0	111	744	390	49	3	443	6	0	223	668	3	1262	321	1	543	1676				
	Died...... 1st half..	206	6	0	0	35	0	4	4	57	0	0	17	3	7	0	18	0	0	0	5	0	3	21	0	1	25				
	Died...... 2d ,,	174	3	0	0	17	0	0	6	64	0	0	13	4	2	0	19	0	0	0	3	1	9	16	0	1	16				

NATIVE TROOPS.

No. 2.—*Table exhibiting the half yearly admissions and deaths from the principal diseases, throughout the entire Army of Madras, during the period of ten years, from 1829 to 1838 inclusive; the aggregate strength each year is also given, with the per centage of sick to strength, of deaths to sick treated, and of deaths to strength.*

Years.			Admissions & deaths.	Apoplexy.	Atrophy.	Beriberi.	Cholera.	Cutaneous diseases.	Delirium Tremens.	Diarrhœa.	Dysentery.	Elephantiasis.	Fever ephemeral.	,, continued.	,, intermittent.	,, remittent.	Guinea worm.	Hepatic diseases.	Insanity.	Leprosy.	Ophthalmy.	Rheumatism.	Small Pox.	Syphilis, &c.	Thoracic diseases.	Ulcer phagedenic.	Wounds and Injuries.	Other Complaints.	Aggregate strength each year.	Annual per centage of sick to strength.	Annual per centage of death to sick treated.	Annual per centage of deaths to strength.
1829	Admitted..	1st half..	14,926	12	11	0	378	42	0	413	229	0	0	164	3680	378	0	23	17	0	208	1710	8	866	103	0	1249	5432	63,697	45 ·068	2 ·602	1 ·172
		2d ,,	13,781	8	11	50	68	0	0	341	198	0	0	233	3078	206	0	20	34	0	392	1663	4	668	117	0	1188	5502				
	Died......	1st half..	439	7	2	0	170	1	0	18	16	0	0	6	45	24	0	2	0	0	0	20	5	7	23	0	6	87				
		2d ,,	308	6	5	8	34	0	0	21	14	0	0	4	54	13	0	3	1	0	1	20	3	7	19	0	6	89				
1830	Admitted..	1st half..	13,786	2	3	14	239	0	0	343	128	0	0	133	2708	189	22	21	46	0	276	1400	20	584	115	2	1289	6247	63,532	43 ·222	2 ·388	1 ·032
		2d ,,	13,674	11	0	41	20	0	0	278	122	0	452	186	2774	217	0	22	37	0	324	1450	3	521	132	1	1362	5721				
	Died......	1st half..	390	2	3	5	120	0	0	19	11	0	0	5	44	12	1	4	2	0	0	26	6	3	29	2	8	88				
		2d ,,	266	9	1	7	5	0	0	22	12	0	2	8	35	7	0	4	1	0	0	23	3	5	28	1	5	88				
1831	Admitted..	1st half..	13,402	6	5	17	395	0	0	423	146	0	679	170	1878	166	0	23	45	0	209	1281	5	652	82	0	1296	5924	58,340	46 ·984	2 ·838	1 ·333
		2d ,,	14,009	6	2	195	246	0	0	463	223	0	1080	114	2666	387	0	31	30	0	390	1307	2	490	138	0	1132	5107				
	Died......	1st half..	376	4	6	4	147	0	0	18	11	0	5	11	24	9	0	1	3	0	0	19	2	5	18	0	8	81				
		2d ,,	402	6	1	16	124	0	0	23	16	0	3	6	40	14	0	4	2	0	1	22	1	4	23	0	5	91				
1832	Admitted..	1st half..	12,815	9	4	66	407	0	0	275	176	0	1130	113	1700	318	0	27	33	0	177	1130	0	404	89	0	1305	5452	57,109	49 ·226	3 ·073	1 ·512
		2d ,,	15,298	7	12	185	397	0	0	404	264	0	2030	195	2696	389	0	22	32	1	360	1171	0	393	627	1	1229	4883				
	Died......	1st half..	380	7	3	10	155	0	0	5	15	0	6	9	20	8	0	1	2	0	1	26	0	1	21	0	8	82				
		2d ,,	484	5	3	20	177	0	0	17	24	0	4	12	37	15	0	4	0	1	1	24	0	3	23	1	8	105				
1833	Admitted..	1st half..	16,013	8	4	68	929	0	0	417	201	0	2262	151	2380	285	0	32	35	0	312	1173	9	572	366	0	1229	5580	57,423	58 ·774	3 ·780	2 ·222
		2d ,,	17,737	8	12	125	307	26	0	495	367	0	2719	236	4326	582	0	25	27	0	471	1195	1	763	111	0	1136	4805				
	Died......	1st half..	764	6	3	11	429	0	0	28	24	0	19	8	49	20	0	4	2	0	1	23	3	1	25	0	3	105				
		2d ,,	512	5	4	12	151	1	0	21	39	0	5	7	64	12	0	4	3	0	0	28	2	10	34	0	7	103				
1834	Admitted..	1st half..	17,513	4	102	80	86	887	5	677	319	0	1902	397	5209	464	32	30	25	0	184	1322	76	827	273	14	1312	3286	51,686	83 ·469	2 ·167	1 ·809
		2d ,,	25,629	10	93	156	27	1087	8	375	400	5	2789	289	12,552	469	37	20	39	0	311	1404	26	630	334	9	1174	3385				
	Died......	1st half..	409	4	9	4	48	0	0	29	42	0	10	16	81	28	0	6	3	0	1	21	4	6	33	0	11	53				
		2d ,,	526	7	20	23	9	2	0	37	57	0	15	22	145	26	0	0	1	0	1	21	0	6	42	1	6	85				
1835	Admitted..	1st half..	19,902	5	65	57	4	1262	6	320	251	2	2031	362	7239	334	110	18	57	5	456	1536	37	563	224	1	1309	3648	55,261	73 ·541	1 ·710	1 ·257
		2d ,,	20,738	6	63	147	8	1592	6	386	306	2	2035	374	6950	288	40	30	13	4	420	1679	11	519	331	3	1334	4161				
	Died......	1st half..	346	2	9	5	1	0	0	17	31	0	16	15	93	18	0	3	3	0	1	19	0	2	40	0	5	66				
		2d ,,	349	5	17	17	1	1	1	20	40	1	9	21	91	19	0	4	1	0	1	22	0	9	19	0	4	46				
1836	Admitted..	1st half..	27,693	19	80	93	7	1841	18	526	576	0	1443	439	12,430	1627	110	31	45	1	283	1760	23	538	311	4	1458	4035	52,746	87 ·018	2 ·150	1 ·871
		2d ,,	18,201	1	83	101	18	1307	11	366	312	0	1415	265	5588	509	45	29	23	3	808	1515	6	443	280	9	1236	3828				
	Died......	1st half..	651	11	11	7	2	2	2	46	98	0	6	29	254	34	0	5	1	0	0	28	1	4	43	0	12	62				
		2d ,,	329	0	10	28	9	0	1	22	19	0	6	15	81	10	0	1	2	0	1	20	0	3	29	1	6	65				
1837	Admitted..	1st half..	18,824	8	115	86	292	1413	16	628	335	0	1274	312	5092	434	206	24	30	2	315	1617	46	530	251	2	1553	4243	54,908	65· 855	2 ·848	1 ·875
		2d ,,	17,336	6	95	138	414	1177	10	582	345	0	1629	231	4175	305	72	26	48	0	530	1588	15	546	347	2	1291	3761				
	Died......	1st half..	483	3	12	20	139	1	0	17	28	0	9	20	75	39	0	3	3	0	1	22	0	1	31	0	10	49				
		2d ,,	547	3	18	22	212	2	3	22	31	0	10	13	43	20	0	6	4	0	0	15	2	4	42	1	8	66				
1838	Admitted..	1st half..	18,003	6	66	52	518	1242	13	643	295	1	2192	216	3736	271	287	15	40	1	403	1684	98	605	279	1	1437	3802	53,701	67 ·121	3 ·198	2 ·147
		2d ,,	18,042	6	100	133	586	1115	8	655	313	2	2382	167	4497	228	51	18	32	0	392	1629	25	543	385	3	1323	3449				
	Died......	1st half.	558	5	20	13	227	0	0	23	24	0	4	9	52	20	1	1	3	0	1	20	6	8	38	0	5	78				
		2d ,,	595	5	23	20	253	0	1	28	35	0	6	10	54	13	0	2	2	0	3	24	4	2	33	0	7	70				

GENERAL TABLES.

Table No. 3.—Abstract of the preceding Return showing the Total number of Admissions and Deaths, also the number invalided, &c. amongst the European Troops of the Madras Army, from 1829 to 1838 inclusive.

	Admissions and Deaths &c.	Apoplexy.	Atrophy.	Beriberi.	Cholera.	Cutaneous diseases.	Delirium Tremens.	Diarrhœa.	Dysentery.	Elephantiasis.	Fever Ephemeral	,, Continued.	,, Intermittent.	,, Remittent.	Guinea Worm.	Hepatic diseases.	Insanity.	Leprosy.	Ophthalmy.	Rheumatism.	Small Pox.	Syphilis, &c.	Thoracic diseases.	Ulcer phagedenic.	Wounds & Injuries.	Other Complaints.
Aggregate Strength 1,03,431.																										
Admitted, 1st half.	88,899	117	72	25	1,757	399	1,516	3,630	7,386	0	922	8,120	4,836	2,032	36	5,798	143	0	2,919	5,286	8	10,449	3,403	5	7,502	22,458
Admitted, 2d half.	97,966	88	34	36	1,076	417	1,747	4,439	10,056	0	1,273	8,709	8,378	2,304	19	5,453	131	1	4,100	5,401	4	11,001	3,293	20	7,128	22,828
Total..	1,86,865	205	106	61	2,833	816	3,263	8,069	17,442	0	2,195	16,829	13,264	4,336	55	11,251	271	1	7,019	10,687	12	21,450	6,696	25	14,630	45,286
Died, 1st half.	2,119	69	18	6	396	0	39	57	544	0	2	91	44	58	0	253	10	0	2	42	1	19	153	0	26	289
Died, 2d half.	2,606	49	12	10	374	1	15	102	838	0	6	112	90	95	0	292	8	0	1	51	1	44	163	2	27	310
Total..	4,725	118	30	16	770	1	54	159	1,382	0	8	203	134	153	0	545	18	0	6	93	2	63	316	2	53	599
Invalided..	2,394	0	13	0	0	6	1	13	89	0	Fevers of all types.		67		0	309	47	0	73	408	0	76	201	17	192	882
Total died & invalided	7,119	118	43	16	770	7	55	172	1,471	0	Do.		565		0	854	65	0	79	501	2	139	517	19	245	1,481
Average annual per centage of sick to strength.	180·666	0·198	0·102	0·058	2·739	0·817	3·151	7·801	16·863	0	2·122	16·270	12·824	4·192	0·053	10·877	0·261	0	6·815	10·332	0·011	20·738	6·473	0·024	14,144	43·784
Do. do. of deaths to sick.	2·528	57·560	28·301	26·229	27,179	0·118	1·651	1·970	7·923	0	0·361	1·206	1·010	3·528	0	4·844	6·569	0	0·085	0·870	16·666	0·293	4·719	8·000	0·362	1·322
Do. do. of deaths to strength	4·568	0·114	0·029	0·015	0·744	0·000	0·052	0·153	1·336	0·000	0·007	0·196	0·129	0·147	0·000	0·526	0·017	0·000	0·005	0·089	0·001	0·060	0·305	0·001	0·051	0·579
Per centage of deaths and invalided to strength.	6·882	0·114	0·041	0·015	0·744	0·006	0·053	0·166	1·422	0	Fevers of all types.		0·546		0·000	0·825	0·062	0·000	0·076	0·484	0·001	0·134	0 499	0·018	0·236	1·431

Of the number invalided and not included under the diseases specified in this table, were

Anasarca	8	Enteritis	1	Otitis	1
Ascites	4	Epilepsia	49	Obstipatio	2
Apostema lumborum	3	Fistula in ano	8	Paralysis	80
Cephalalgia	32	Gastritis	1	Scrophula	24
Cystitis	1	Hæmorrhois	14	Scorbutus	4
Caries	1	Hernia	53	Splenitis	1
Dyspepsia	8	Hydarthrus	3	Ulcus	13
Dyscœa	19	Hydrothorax	1	Varix	35
Dysuria	10	Lumbago	1	Weakness of thumb	2
Debilitas	323	Morbus coxarius	3	At his request	2
		Melancholia	1	Bad character	3
		Necrosis	1	No case given	167
		Nephritis	3		
				Total..	882

Of the Total number invalided,
were H. M.'s Troops........ 1248
H. C. Troops. 1146

Total..2394

The number from H. M. Troops are given under the general head "Invalided"; and of those of the H. C. Troops, viz. 1146.

Were invalided........ 431
,, pensioned........ 290
,, discharged........ 425

Total.. 1146

Table No. 4.—Abstract of the preceding Return shewing the Total number of Admissions and Deaths, also the number invalided, &c. amongst the Native Troops of the Madras Army, from 1829 to 1838 inclusive.

	Admissions and Deaths &c.	Apoplexy.	Atrophy.	Beriberi.	Cholera.	Cutaneous diseases.	Delirium tremens.	Diarrhœa.	Dysentery	Elephantiasis.	Fever ephemeral.	,, continued.	,, intermittent.	,, remittent.	Guinea worm.	Hepatic diseases.	Insanity.	Leprosy.	Opthalmy.	Rheumatism.	Small pox.	Syphilis &c.	Thoracic diseases.	Ulcer, phagedenic.	Wounds & injuries.	Other complaints.
Aggregate Strength 5,68,403																										
Admitted. 1st half.	172882	79	455	533	3,255	6,687	58	4,665	2,656	3	12,913	2,462	46,052	4,466	767	244	373	9	2,823	14,613	322	6,141	2,196	24	13,437	47,649
Admitted. 2d half.	174445	69	471	1,271	2,091	6,304	43	4,345	2,850	9	16,531	2,290	49,302	3,580	245	243	345	8	4,398	14,601	93	5,516	2,802	28	12,408	44,602
Total..	347327	148	926	1,805	5,346	12,991	101	9,010	5,506	12	29,444	4,752	95,354	8,046	1,012	487	718	17	7,221	29,214	415	11,657	4,998	52	25,845	92,251
Died...... 1st half.	4,803	51	78	79	1,438	4	2	220	300	0	75	128	737	212	2	30	22	0	6	224	27	38	301	2	76	751
Died...... 2d half.	4,318	51	102	173	975	6	6	233	287	1	60	118	644	149	0	32	17	1	9	219	15	53	292	5	62	808
Total	9,121	102	180	252	2,413	10	8	453	587	1	135	246	1,381	361	2	62	39	1	15	443	42	91	593	7	138	1,559
Invalided...........	11558	3	53	72	2	7	0	26	25	8	Fevers of all types. 235				0	10	133	127	347	1125	1	242	357	214	527	8044
Total died & invalided.	20679	105	233	324	2415	17	·8	479	612	9	Do. 2358				2	72	172	128	362	1568	43	333	950	221	665	9603
Average annual per centage of sick to strength.	61·105	0·026	0·162	0·317	0·940	2·285	0·017	1·585	0·968	0·002	5·180	0·836	16·775	1·415	0·178	0·085	0·126	0·002	1·270	5·139	0·073	2·050	0·879	0·009	4·546	16·229
Do. do. of deaths to sick.	2·626	68·918	19·438	13·968	45.136	0·076	7·920	5·027	10·661	8·333	0·458	5·176	1·448	4·486	0·197	12·731	5·431	5·882	0·207	1·516	10·120	0·780	11·864	13·461	0·533	1·189
Do. do. of deaths to strength.	1·604	0·017	0·031	0·044	0·424	0·001	0·001	0·079	0·103	0·000	0·023	0·043	0·242	0·063	0·000	0·010	0·006	0·000	0·002	0·077	0·007	0·016	0·104	0·001	0·024	0·274
Per centage of deaths and invalided to strength.	3·638	0·018	0·040	0·057	0·424	0·002	0·001	0·084	0·107	0·001	Fevers of all types. 0·414				0·000	0·012	0·031	0·022	0·063	0·275	0·007	0·058	0·167	0·038	0·116	1·689

Of the number invalided, and not included under the diseases specified in this Table, were

Atrophia	129	Colica	1	Fistula in auo	22	Splenitis	1
Anasarea	8	Concussio	3	Hœmorrhois	46	Varix	41
Apostema lumborum	2	Caries	21	Hernia	103	Bad workmen	3
Ascites	18	Diabetes	2	Hydarthrus	7	Bad character	421
Aphonia	5	Dyspepsia	4	Morbus coxarius	4	At his request	647
Burning of the feet	24	Dysuria	6	Malingering	53	Under-size	62
		Dysecœa	98	Nephritis	1	Supernumerary	7
		Debilitas	5944	Paralysis	187	Not given	13
		Epilepsia	56	Polypus nasi	1		
		Ebrietas	96	Scorbutus	8	Total..	8044

Of the total number under the head "Invalided" viz. 11558.

Were pensioned	6491
Do. invalided	2559
Do. discharged	2508
Total..	11558

EUROPEAN TROOPS.

No. 5.—*Table exhibiting the number of Admissions and Deaths from each class of Disease, throughout the whole Army, during the period of five years, from 1834 to 1838 inclusive; also the number Invalided, Pensioned and Discharged, during the same period, and the per centage of sick to strength, of deaths to sick treated, of deaths to strength, and of deaths and invalids &c. to the strength.*

Classes.	Diseases.	From 1834 to 1838. Aggregate strength 48870. 1st Half. Ad.	1st Half. Dd.	2d Half. Ad.	2d Half. Dd.	Admissions & deaths from each class of disease. 1st Half. Ad.	1st Half. Dd.	2d Half. Ad.	2d Half. Dd.	Total admissions from each class.	Total deaths from each class	Invalided &c. from each class of disease.	Total died and invalided &c. from each class.	Per centage of sick to strength.	Per centage of deaths to sick treated.	Per centage of deaths to strength.	Per centage of deaths, invalids &c. to strength.
Fever	Febris ephemera	612	2	856	2	8,353	110	11,453	176	19,836	286	57	343	40·589	1·441	0·585	0·701
	„ intermit quot.	2,395	20	4,267	47												
	„ tertiana	609	4	1,315	11												
	„ remittens	381	28	660	53												
	„ continua	4,353	56	4,355	63												
	Cholera	218	58	303	81	218	58	303	84	521	142	0	142	1·066	27·255	0·290	0·290
Diseases of the abdominal viscera	Dysenteria acuta	2,987	261	4,514	415	3,196	287	4,785	461	7,981	748	55	803	16·331	9·373	1·530	1·613
	„ chronica	209	26	271	46												
	Diarrhœa	1804	28	2,180	52	4 123	52	4,589	77	8,712	129	24	153	17·826	1·480	0·263	0·313
	Colica	463	1	475	0												
	Obstipatio	503	2	603	1												
	Hæmorrhois	491	2	578	8												
	Enteritis	61	4	49	3												
	Peritonitis	60	5	59	7												
	Gastritis	71	4	52	4												
	Dyspepsia	677	6	593	7												
	Hepatitis acuta	2,028	75	2,028	91	2,677	111	2,585	130	5,262	241	159	400	10·767	4·589	0·493	0·818
	„ chronica	649	36	557	36												
Diseases of the lungs and heart	Catarrhus	1,181	15	1,108	19	1,925	88	1,907	84	3,832	172	139	311	7·841	4·488	0·351	0·636
	Asthma	61	5	54	2												
	Phthisis pulmonalis	60	35	69	30												
	Hæmoptysis	47	3	35	3												
	Pleuritis	0	0	1	0												
	Pneumonia	460	20	409	19												
	Carditis	20	2	27	4												
	Palpitatio	37	0	40	0												
	Dyspnœa	69	8	74	7												
Diseases of the Brain.	Apoplexia	58	37	33	22	2,473	95	2,626	65	5,099	160	125	285	10·433	3·137	0·327	0·583
	Epilepsia	131	5	111	2												
	Paralysis	105	7	121	15												
	Cephalalgia	615	6	537	9												
	Phrenitis	10	0	2	2												
	Ictus solis	0	0	0	0												
	Amentia	24	1	22	0												
	Mania	31	3	34	3												
	Hydrophobia	1	1	1	1												
	Delirium Tremens	418	25	431	9												
	Ebrietas	1,077	10	1,301	2												
Diseases of the Eye	Morbi oculorum	989	1	1,447	4	989	1	1,417	4	2,436	5	31	36	4·981	0·205	0·010	0·073
Do. Skin,	„ cutis	399	0	455	1	399	0	455	1	854	1	4	5	1·747	0·117	0·002	0·010
Eruptive fevers	Variola	6	1	4	1	78	2	72	2	150	4	0	4	0·306	2·666	0·008	0·008
	Varicella	12	1	2	0												
	Rubeola	12	0	13	0												
	Scarlatina	1	0	0	0												
	Erysipelas	47	0	53	1												
Dropsies	Anasarca	109	14	98	21	147	26	156	35	303	61	5	66	0·620	20·132	0·124	0·135
	Ascites	34	11	54	12												
	Hydrothorax	4	1	4	2												
Rheumatic affections.	Rheumat. acutus	1,932	7	2,153	12	2,961	32	3,228	32	6,192	54	313	367	12·670	0·872	0·110	0·753
	„ chronicus	1,011	15	1,040	20												
	Neuralgia	0	0	0	0												
	Odontalgia	21	0	35	0												
Venereal affections	Syphilis primitiva	2,899	4	2,955	11	6,758	11	6,674	30	13,432	41	51	92	27·485	0·305	0·083	0·188
	„ consecutiva	213	5	175	10												
	Gonorrhœa	3,029	1	2,914	3												
	Hernia humoralis	508	1	552	4												
	Strictura urethræ	109	0	78	2												
Specific diseases	Atrophia	39	5	26	7	181	9	147	10	328	19	31	50	0·671	5·792	0·038	0·102
	Beriberi	4	0	6	2												
	Elephantiasis	0	0	0	0												
	Lepra	0	0	1	0												
	Dracunculus	42	0	19	0												
	Ulcus phagedenicum	7	0	8	0												
	Scrophula	57	1	59	0												
	Scorbutus	32	3	28	1												
Punishment	Punitus	235	1	249	0	235	1	249	0	484	1	0	1	0·990	0·206	0·002	0·002
Wounds and injuries	Fractura	131	2	128	3	3,411	14	3,183	13	6,594	27	92	119	13·492	0·409	0·055	0·243
	Luxatio	67	0	63	0												
	Subluxatio	339	1	308	1												
	Vulnus sclopitorum	62	2	51	3												
	„ incisum	511	1	505	8												
	Contusio	2,211	7	2,047	3												
	Ambustio	90	1	84	0												
Other diseases, including Phlogosis Ulcus &c.		5,450	37	5,643	47	5,450	37	5,643	47	11,093	84	347	431	22·698	0·757	0·171	0·881
	Total	43,577	924	49,532	1,251	43,577	924	49,532	1,251	93,109	2,175	1,433	3,608	190·523	2·335	4·450	7·382

Of the number invalided under the head "Other diseases" are included the following:

Apostema lumborum	3
Morbus coxarius	1
Fistula in ano	8
Ulcus	20
Otitis	1
Nephritis	2
Hernia	27
Varix	34
Hydarthrus	2
Dysecœa	9
Dysuria	7
Splenitis	1
Weakness of thumb	2
Physical debility	206
No cause given	20
At his own request	2
Bad character	2
Total..	347

Of the admissions and deaths under the head "other diseases."

Were Phlogosis	3116	7
„ Ulcus	3245	8
„ Bubo simplex	1691	5
Total..	8052	20

The deaths under the head "other diseases," include besides those accounted for in the preceeding note viz.

20 Phlogosis &c.
6 Aneurisma.
9 Splenitis.
2 Apostema lumborum.
1 Fistula in perineo.
1 Fistula in ano.
2 Splenitis.
1 Nephritis.
1 Dysuria.
1 Hydarthrus.
1 Prolapsus ani.
2 Anæmia.
2 Melancholia.
3 Icterus.
2 Diabetes.
2 Cachexia.
7 Cynanche.
1 Cystitis.
1 Hæmatemesis.
19 Not particularised.

84 Total.

Of the number invalided 1433, 869 were from H. M Troops, and 564 of the H. Company.

Of which latter were invalided	187
Pensioned	150
Discharged	227
Total..	564

GENERAL TABLES.

NATIVE TROOPS.

No. 6.—*Table exhibiting the number of Admissions and Deaths from each class of Disease, throughout the whole Army, during the period of five years, from 1834 to 1838 inclusive; also the number Invalided, Pensioned or Discharged during the same period, and the per centage of sick to strength, of deaths to sick treated, of deaths to strength, and of deaths and invalids &c. to strength.*

CLASSES.	DISEASES.	From 1834 to 1838. Aggregate strength 267786. 1st Half. Ad.	Dd.	2d Half. Ad	Dd.	Admissions & deaths from each class of disease. 1st Half. Ad.	Dd.	2d Half. Ad.	Dd.	Total admissions from each class.	Total deaths from each class	Invalided &c. from each class of disease.	Total died and Invalided &c. from each class.	Per centage of sick to strength.	Per centage of deaths to sick treated.	Per centage of deaths to strength.	Per centage of deaths, invalids &c. to strength.
Fever......	Febrisephemera	8,834	45	10,241	46	47,594	829	47,234	629	94,828	1,458	176	1,634	35·411	1·537	0·544	0·610
	,, intermit quot·	31,613	537	30,604	387												
	,, tertiana......	2,261	19	3,164	27												
	,. remittens	3,130	139	1,899	88												
	,, continua......	1.726	89	1,326	81												
	Cholera........	907	417	1,053	484	907	417	1,053	484	1,960	901	2	903	0.731	45·969	0·336	0·337
Diseases of the abdominal viscera......	Dysenteriaacuta	1,492	167	1,379	135	1,764	223	1,686	182	3,450	405	18	423	1·288	11·739	0·151	0·157
	,, chronica......	272	56	307	47												
	Diarrhœa	2.794	131	2,364	129	5,618	212	5,451	209	11,069	421	60	481	4·123	3·803	0·157	0·179
	Colica.........	695	7	619	8												
	Obstipatio......	490	6	642	16												
	Hœmorrhois....	223	6	223	3												
	Enteritis........	19	9	14	5												
	Peritonitis......	17	2	23	4												
	Gastritis........	11	5	17	1												
	Dyspepsia......	1,369	46	1,549	43												
	Hepatitis acuta	94	12	87	9	120	18	122	13	242	31	8	39	0·090	12·809	0·011	0·014
	,, chronica....	26	6	35	4												
Diseases of the Lungs and heart	Catarrhus......	760	46	837	48	1,441	188	1.674	164	3,115	352	239	591	1·163	11·300	0·131	0·220
	Asthma........	260	32	429	24												
	Phthisis pulmonalis.........	89	49	90	50												
	Hœmoptysis...,	23	4	27	5												
	Pleuritis........	0	0	0	0												
	Pneumonia.....	183	35	161	25												
	Carditis........	3	1	7	1												
	Palpitatio......	7	2	7	1												
	Dyspnœa.......	116	19	116	10												
Diseases of the Brain.	Apoplexia......	35	24	29	20	945	75	843	74	1,788	149	251	400	0·667	8·383	0·055	0·149
	Epilepsia.......	56	4	60	13												
	Paralysis.......	144	21	149	14												
	Cephalalgia....	439	8	363	4												
	Phrenitis.......	11	0	1	1												
	Ictus solis......	0	0	0	0												
	Amentia........	81	6	60	8												
	Mania..........	116	7	122	2												
	Hydrophobia...	2	2	5	5												
	Delirium Tremens.........	61	3	54	7												
	Ebrietas........	0	0	0	0												
Diseases of the Eye..	Morbi oculorum	1,478	4	2,451	6	1,478	4	2,451	6	3,929	10	208	218	1·467	0·254	0·003	0·081
Do. Skin,	,, cutis......	6,647	3	6,459	5	6,647	3	6.459	5	13,106	8	4	12	4·894	0·061	0·002	0·004
Eruptive fevers.......	Variola	193	11	64	6	1,649	14	488	7	2,137	21	0	21	0·798	0·982	0·007	0·007
	Varicella.......	1,229	0	267	0												
	Rubeola........	180	1	111	1												
	Scarlatina......	1	0	1	0												
	Erysipelas......	46	2	45	0												
Dropsies...	Anasarca.......	314	68	341	70	361	88	386	89	747	177	16	193	0·278	23·694	0·066	0·072
	Ascites.........	41	14	36	15												
	Hydrothorax ...	6	6	9	4												
Rheumatic affections.	Rheumat acutus	4,524	63	4,258	51	8,042	110	7,901	102	15,943	212	739	951	5·953	1·329	0·079	0·355
	,, chronicus....	3,405	47	3,556	51												
	Neuralgia......	0	0	2	0												
	Odontalgia.....	113	0	85	0												
Venereal affections..	Syphilis primitiva....	1,538	7	1,304	10	3,073	21	2,675	24	5,748	45	154	199	2·146	0·782	0·016	0·074
	,, consecutiva.	225	10	203	3												
	Gonorrhœa.....	637	3	584	6												
	Hernia humoralis...........	614	0	552	3												
	Strictura urethræ.........	59	1	32	2												
Specific diseases.....	Atrophia.......	434	61	432	87	1.729	111	1,538	210	3,267	321	255	576	1·220	9·825	0·119	0·215
	Beriberi........	360	47	675	110												
	Elephantiasis...	3	0	9	1												
	Lepra..........	9	0	7	0												
	Dracunculus....	745	1	245	0												
	Ulcus phagedenicum........	22	0	27	3												
	Scrophula......	142	2	124	8												
	Scorbutus......	14	0	19	1												
Punishment	Punitus.........	140	0	88	0	140	0	88	0	228	0	0	0	0·085	0·000	0·000	0·000
Wounds and injuries...	Fractura........	130	2	129	4	6,967	34	6,506	33	13,473	76	307	383	5·031	0·564	0·028	0·143
	Luxatio.........	45	0	48	0												
	Subluxatio.	423	2	420	2												
	Vulnus sclopitorum..........	325	21	111	4												
	,, incisum......	1,109	7	1,088	7												
	Contusio.......	4,695	10	4,460	15												
	Amhustio......	240	1	250	1												
Other diseases, including Phlogosis Ulcus &c.............		13,465	98	13,391	115	13,465	98	13391	115	26,856	213	3,161	3,274	10·028	0·793	0·079	1·259
	Total....	1,01,940	2,454	99,946	2,346	101,940	2,454	99,946	2,346	20,1886	4,800	5,598	10,398	75·390	2·377	1·792	3·882

Of the number invalided under the head "Other diseases" are included the following:

Apostema lumborum	2
Aphonia	5
Burning of the feet	22
Caries	13
Debilitas	2555
Diabetes	2
Dysuria	2
Dysecœa	53
Fistula in ano	15
Hernia	62
Hydarthrus	3
Morbus coxarius	2
Polypus nasi	1
Nephritis	1
Ulcus	101
Varix	31
Malingerer	81
Under-size	3
Bad character	99
At his own request	163
Unable to sound the bugle	1
Not given	4
Total..	3161

Of the admissions and deaths under the head "other diseases."

Were Phlogosis	13587	44
,, Ulcus	8617	33
,, Bubo simplex	2041	8
Total..	24245	85

The deaths under the head "other diseases," include besides those accounted for in the preceeding note viz.

85 Phlogosis &c.
3 Aneurisma.
1 Apostema lumborum.
2 Arthritis.
1 Cacnexia.
10 Cynanche.
1 Cystitis.
5 Diabetes.
3 Dysuria.
2 Fistula in ano.
4 Fistula in perineo.
2 Epistaxis.
5 Hæmatemesis.
4 Hernia.
3 Hydrophobia.
1 Hydarthrus.
13 Icterus.
1 Laryngitis.
1 Melancholia.
1 Morbus coxarius.
1 Polypus nasi.
1 Prolapsus ani.
2 Scirrhus.
16 Splenitis.
24 Tetanus
2 Tympanites.
2 Vermes intestinorum
1 Varix.
16 Not particularised.

213 Total.

The total number invalided 5598 includes 1066 invalided.
3700 pensioned.
832 discharged.

5598